Modelling of Intensive Group Music Therapy for Acute Adult Psychiatric Inpatients

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Details of collaboration and publications:

The systematic review in chapter 3 is an update of an original review conducted by the candidate, with supervisorial and conceptual input from Professor Stefan Priebe and Professor Helen Odell-Miller and published in PLOSone. Stavros Orfanos provided assistance in the duplicate extraction and quality assessment of papers. The original paper is provided in Appendix A. Claudia Hallett assisted in the moderation of the focus groups conducted in chapter 5. Emma Evans assisted in the double coding and conceptual development of codes of questionnaires and videos in chapter 6. Statistical advice was provided by Dr Stephen Bremner for the sample size calculation (Appendix D) and Dr Kirsten Barnicot for the multilevel analysis in chapter 7.

Signed: 

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ABSTRACT

Background:

Acute inpatient stays are decreasing. Evidence for music therapy in mental healthcare exists but practice varies. Short admissions and therapy frequency (usually weekly), limit access, yet acceptability of increased frequency to patients is unknown. Research to model processes and outcomes of intensive provision may identify how best to provide for acute contexts informing clinical practice and future research.

Methods:

114 patients admitted to hospital with acute mental health problems were recruited. Patients attended group music therapy 1-3 times per week during admission. Repeated measures assessing patient experiences, session appraisal, motivation and commitment were completed. Questionnaire thematic analysis identified important processes which were coded from session recordings. Multilevel modelling was used to examine associations between music therapy components, session appraisal, motivation, commitment and subsequent attendance. End of therapy interviews with 16 patients explored changes experienced and views on therapy frequency.

Results: Attendance was 3 times greater for patients with 3 sessions per week. The majority found increased frequency acceptable and beneficial. Processes of engagement, emotional expression and social connection suggested active music-making, synchrony and singing to be important for group cohesion. Singing was significantly associated with appraisal and motivation. Musical initiation by group members was associated with motivation and commitment. All three outcomes were associated with each other, with session appraisal and increased frequency independently associated with subsequent attendance. Patient attributions for change included creativity, experiential learning and therapist directed reflective discussions.

Conclusion: Intensive group music therapy is acceptable to the majority of patients, perceived as beneficial and increases access. Intensive provision is associated with greater engagement and positive experiences, which in turn, are associated with group commitment. Patient experiences can inform practice. Further research should examine effectiveness of intensive provision. Therapists should continue to prioritise engagement through active music-making and singing, and services consider implementation of intensive provision.

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Abbreviations

BAMT- British Association for Music Therapy

CQC- Care Quality Commission

DoH- Department of Health

HCP- Health Care Professional

HCPC- Health Care and Professions Council

HSIC- Health and Social Care Information Centre

ICD10- International Classification of Diseases, version 10

MHPIG- Mental Health Services Policy Implementation Guide

MRC- Medical Research Council

NHS – National Health Service

NICE- National Institute for Health and Care Excellence

NSF- National Service Framework

PPT- Participant

PRISMA- Preferred Reporting Items for Systematic Reviews and Meta-analyses

RCT- Randomised Controlled Trial

s.d/std.dev.- Standard deviation

Th.- Therapist

UK- United Kingdom

USA- United States of America

WHO- World Health Organisation

WoE- Weight of the evidence

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Thesis outline

This thesis is an examination of intensive group music therapy practice with adults admitted to hospital for treatment of acute mental health problems. Both quantitative and qualitative methods were employed within the Medical Research Council (MRC, 2008) framework for the development of complex interventions and a research design developed by psychotherapy change process research groups (Elliott, 2010). The overall aim of this thesis was to build a model of intensive group music therapy processes and outcomes. The premise of this thesis is that music therapy has evidence for its effectiveness in treating a range of mental health problems (Gold, Mössler, Grocke, Heldal et al., 2013; Gold, Solli, Krüger & Lie, 2009; Maratos, Gold, Wang & Crawford, 2008; Mössler, Chen, Heldal & Gold, 2011) but a model of practice has not been empirically developed for groups within an acute psychiatric inpatient context. Development of a model of processes and outcomes for intensive group music therapy with acute adult psychiatric inpatients may improve the quality of care received, increase access to a potentially beneficial treatment, develop better clinical practice and provide a foundation for evaluating the effectiveness of group music therapy as a complex intervention within this clinical setting (MRC, 2008).

The need for this research was formulated from the candidate's own experience of running music therapy groups within an acute psychiatric inpatient setting. Within this setting it was notable that the symptom diversity and severity, patient experiences of hospitalisation and involuntary admissions posed particular challenges to practice. Most prominent was the difficulty in establishing a stable group membership due to the weekly provision of sessions and high turnover of patients, whose lengths of hospitalisation ranged usually between a few days to in some cases, almost a year. Such challenges have been acknowledged within wider psychotherapy groups (Yalom, 1983) and are further challenged by rapidly decreasing lengths of stay (NHS Benchmarking Network, 2013).

Music therapy has a relatively long history of provision in mental health care (Tyler, 2000). Historically, music therapy methods and approaches have developed through clinical practice, as documented by the wealth of published case studies and clinical theoretical discussions (Alvin, 1966; Bruscia, 1991; Hadley, 2002; Meadows, 2011; Nordoff & Robbins, 1977; Priestley, 1975). This has led to specialisation within particular clinical areas although practice can also differ dramatically depending on the country and model of training (Bruscia, 1987; 1998). Only a handful of case studies and pilot studies are available that specifically describe the practice

of acute inpatient groups within NHS hospital settings. Few are representative of current service provision with only two papers published within the last 10 years (Bunt, Pike & Wren, 1987; Davies & Richards, 1998; Fenwick, 1973; Moss, 1999; Odell, 1992; Pavlicevic, 1987; Procter, 2002; Rowland & Reed, 2011; Sloboda, 2008).

Music therapy may be considered a complex intervention in that a number of therapeutic processes and interactions take place in order for the intervention to have its effect. Guidance by the Medical Research Council suggests that when developing an intervention, development of theory and modelling of processes and outcomes may assist in both defining and refining the intervention for a specific context (MRC, 2008). As there is no empirical data regarding current music therapy practice in acute NHS inpatient settings on which to provide the basis of model development the first aim of this thesis was to identify how music therapy is delivered in terms of the activities, interventions and common processes for this client group. Such a description provided a foundation for evaluating processes and outcomes within the later aims of the thesis.

Current evidence regarding the effectiveness of music therapy is promising for a range of mental health problems including depression (Erkkilä, Punkanen, Fachner et al., 2011; Maratos, Gold, Wang & Crawford, 2008), schizophrenia (Morgan, Bartrop, Telfler & Tennant, 2011; Mössler, Chen, Heldal & Gold, 2011), and patients with low therapy motivation (Gold, Mössler, Grocke, Heldal et al., 2013). However, few studies have evaluated *group* music therapy (Cassity, 1976; Moe, Rosen & Raben, 2000; Silverman 2009a, 2011a, 2011b, 2013a, 2013b; Ulrich, Houtmans & Gold, 2007). International randomised controlled trials of music therapy have typically evaluated the effects of music therapy over a significantly greater number of sessions than might be accessed in hospital over varying frequencies and time frames (Gold, Solli, Krüger & Lie, 2009). Offering increased frequency of music therapy might increase patient access to sessions and provide a means of stabilising group membership. However, such intensity might not be tolerable for patients experiencing extreme psychosis and distressing symptoms. To date, no research has examined whether increasing the frequency of group music therapy within an acute inpatient National Health Service (NHS) is accepted by patients. Evidence regarding acceptability will provide a means of ascertaining whether changes to provision, which might increase the cost of services provided, are taken up by patients and provide an indication of the benefits and disadvantages of providing music therapy in this way. The second aim of this thesis was therefore to assess the acceptability of intensive group music therapy to acute adult psychiatric inpatients.

Whilst a number of theories are held regarding how and why music therapy might work, the exact mechanisms by which music therapy might achieve clinical goals are not yet fully understood. Based on a meta-analysis, Gold et al., (2009) suggested motivation and musical engagement as two potential mechanisms of change. The contextual model of psychotherapy suggests that psychotherapies work through a combination of features which may be unique or specific to the therapy, shared across all psychotherapies or related to characteristics of the patient or therapist (Wampold, 2001). Currently, psychotherapy research appears to show that the strongest predictor of outcome is the shared (or 'common' factor) of the therapeutic relationship, regardless of the specific model of therapy (Horvath & Bedi, 2002; Martin, Garske & Davis, 2000). Within a group context, this may be defined in terms of the relationship or commitment felt by the patient towards other members in the group (Gaston & Marmar, 1993). Influenced by this model, music therapists in Norway have developed 'Resource oriented music therapy' which postulates a number of specific and unique factors of music therapy (Rolvsjord, Gold & Stige, 2005). A very specific feature of music therapy is the use of active music making as a means of developing a relationship between patient (and/or the group) and therapist. Within the United Kingdom (UK) this is traditionally achieved through a combination of musical improvisation and verbal reflection. To date, only one study has sought to disentangle which music therapy techniques are associated with outcomes (Mössler, Assmus, Heldal et al., 2012) and a further study to identify associations between techniques and diagnosis (Odell-Miller, 2007). Both studies found a particular role for techniques of precomposed music and singing for this client group, although focus was given to individual music therapy rather than groups. Given the lack of detail regarding current practice of music therapy groups in acute NHS services and the differing methods within international randomised clinical trials, modelling of processes and outcomes is therefore required to build a theory of how the intervention may work and to identify which features of the intervention may be of most importance within this specific setting and context. This is of particular relevance to the provision of intensive group music therapy, where the processes of therapy may differ to less frequent provision and are yet unknown. The final aim of this thesis was therefore to model processes and outcomes of intensive group music therapy, looking in particular at associations between features of the music therapy sessions, patient characteristics and outcomes of patient appraisal of sessions, motivation, commitment to the group and attendance of the subsequent session. Such a model will provide a clearer concept for music therapy within acute inpatient settings enabling music therapists to tailor their approach to best meet the unique needs of patients within acute settings and providing a

theoretical and methodological basis for refining and evaluating its effectiveness within a clinical trial.

From this background, the following research questions will be addressed:

1. How is music therapy provided within acute inpatient settings?

    a) Which clinical methods and activities do music therapists use in sessions?

    b) To what extent are music and speaking used in sessions?

    c) What are the musical characteristics of group playing?

2. Is intensive group music therapy acceptable to acute adult psychiatric inpatients?

    a) To what extent do patients make use of a greater frequency of sessions?

    b) What are patients' views of being offered music therapy more than once a week?

3. What associations are there between music therapy components, patient appraisals of the session, motivation, commitment to the group and patient clinical and socio-demographic characteristics?

    a) What events do patients and therapists consider important in group music therapy?

    b) Which components of music therapy feature in important events of patients and therapists?

    c) Are there any associations between music therapy components, patient motivation, commitment to the group, and appraisal of therapy sessions?

    d) What are the patterns and predictors of attendance including predictors of patient clinical and socio-demographic variables, appraisal of the session, motivation and commitment to therapy?

All three questions were addressed using a combination of qualitative and quantitative methods within an exploratory sequential mixed methods design (Cresswell & Plano-Clarke, 2011).

The structure of the thesis begins with four chapters providing a review of literature and rationale for the research questions. Chapters five to seven contain empirical studies conducted by the candidate in order to answer the research questions. Chapter eight presents a discussion of the overall thesis findings, their implications and conclusions.

Chapter one reviews the literature to provide a background to the provision of adult psychiatric inpatient care in the UK, provision of music therapy within these settings and an overview of the evidence base of music therapy in mental health to date.

Chapter two summarises the rationale developed in chapter one and details the aims and research questions of this thesis.

Chapter three is a systematic review of music therapy practice and outcomes within acute inpatient settings and provides a first description of music therapy aims, client and setting specific features of music therapy practice along with a summary of the existing evidence upon which to base a model.

Chapter four reviews the literature to provide a background to the development of complex interventions and change process research methods developed both in the fields of music therapy and psychotherapy. Consideration is given in particular to the strengths and limitations of self-report questionnaires and microanalysis tools in preparation for the empirical work.

Chapter five presents a study to design and pilot an appropriate outcome measure to assess patient appraisals of group music therapy in preparation for the empirical studies conducted in chapters six and seven.

Chapter six presents a qualitative exploration of group music therapy methods and processes that occur within acute psychiatric inpatient settings.

Chapter seven models processes and outcomes of intensive group music therapy and attendance of the subsequent session. The chapter is presented in two parts. The first evaluates associations between components of music therapy identified as important in chapter six and outcomes of patient appraisal of the session, motivation and commitment to the group. The second is a study of patterns and predictors of attendance. Patterns of attendance are examined across differing group frequencies along with reasons for non-attendance. Patient perceptions of group frequencies are explored. Finally, associations between music therapy components, patient appraisal, motivation, commitment and attendance of the subsequent session are evaluated.

Chapter eight is a discussion of the research findings with relation to existing literature, the strengths and limitations of the research and its implications for clinical practice, policy and future research.

CHAPTER 1

Introduction

1.1 Summary

The subject of this thesis is group music therapy within acute adult psychiatric inpatient hospitals. Whilst there is a history of provision of group music therapy within these settings both the setting and intervention have undergone rapid changes, particularly within the last two decades. This chapter will provide a background to the provision of adult psychiatric inpatient care, provision of music therapy within these settings and an overview of the evidence base of music therapy in mental health to date.

1.2 Provision of inpatient services for adults with acute mental health problems

Acute inpatient care is offered for patients when experiencing severe crisis with mental health problems (Department of Health, 2002). Admissions may be voluntary or through compulsory legal detention via the Mental Health Act, 1983. Reasons for admission may be for assessment, treatment of acute symptoms or relapse prevention, with the aim for patients to recover to a point where they are able to quickly return to the community. Length of admission varies, but has decreased to an average of 4 weeks (NHS Benchmarking Network, 2013). Patients are treated primarily with psychopharmacological medication, and a range of activities and therapies are provided by nurses, psychologists, occupational therapists, social workers, peer support workers and arts therapists in order to provide occupation and activity, build therapeutic relationships and address wider areas of therapeutic need. Most interventions are offered in the form of a group activities program which patients are referred to and encouraged to attend. Activities may range from ward based open groups to specialised closed groups requiring referral for a particular problem or need. Most often groups are heterogeneous in terms of diagnosis, and vary widely in the aims and approaches used.

1.2.1 Historical overview of acute psychiatric inpatient care

The provision of hospital services for adults with acute mental health problems has had a chequered history and has been subject to many pressures and changes from both patients, public and government (Campbell, 1996; Fagin, 2007; Freeman, 2005; Jones, 1996, Leff, 1996; Muijen, 1996). The service as it is delivered today differs greatly from the asylums of the 19th

and 20th centuries, which could house thousands of patients, some of whom would stay for the duration of their lives (Freeman, 2005). The punitive measures, abuse and squalid environments were gradually challenged, most famously by the ethos of the Retreat in York, which advocated 'moral treatment'. The ethos called for patients to be "looked after with gentleness and respect, good food, occupation and friendship" (Fagin, 2007: 11) and eventually led to a change in the way patients were viewed and treated. Recreational activities and occupational therapy, including dancing and musical events were introduced and the asylums gradually became self-contained institutions. With the advent of the National Health Service in 1948, provision of mental health care changed rapidly. Overcrowding placed hospitals under pressure and many psychiatrists at the time voiced their criticisms of the institutionalisation of patients, most famously Goffman (1968), Foucault (2006), Szasz (1961), Laing and Esterson (1964). In response to these criticisms, some hospitals developed 'therapeutic communities' which adopted psychodynamic and sociological perspectives, which aimed to equalise the relationships between patients and staff and place patients at the centre of care (Fagin, 2007). These developments did not last as calls were made to integrate mental health care within general hospital provision, and to move towards caring for people with mental health problems in the community. This process took a long time to happen, hindered by inadequate community service provision and a lack of funding and it was only in the 1980s that this began to be realised (Fagin, 2007; Hardcastle, 2007).

The move to care in community led to confusion about the role of acute inpatient care and over the last 15 years it has come under increasing scrutiny (Hardcastle, 2007). Community services were not well developed and it became clear that hospital care would still be necessary for those in crisis or unable to cope at home. Whilst the number of hospital beds have reduced dramatically since 1950, research suggests that these have been compensated by increases in forensic beds and supported housing (Priebe, Badesconyi, Fioritti et al., 2005). In 1998, the government published a mental health services strategy 'Modernising mental health services: Safe, sound and supportive' and proposed increased funding over 3 years in order to realise this (Department of Health (DoH), 1998). The strategy acknowledged the need for hospital beds and that numbers would need to be increased in some areas. This led to the National Service Framework (NSF) for mental health in 1999 (DoH, 1999) and specific guidance on policy implementation in 2001 and 2002 (DoH, 2002). Despite the acknowledgement of a continued need for hospital beds, this has been in increasing conflict with pressures to reduce costs within the NHS as a whole. In addition, a number of papers published by mental health charities identified major problems within acute inpatient wards. Criticisms included a lack of alternatives to admission to hospital; lack of information provided to patients on their

condition, treatment and how the ward and service operates; prolonged lengths of stay due to a lack of alternative support in the community; a 'one size fits all' approach to treatment and care, with little consultation with patients regarding their views on their care needs and discharge planning; emphasis upon medical interventions; a lack of interventions for practical and social needs; unavailability and inconsistency of staff; absence of therapeutic relationships with patients; lack of therapeutic activities and boredom on the wards; inadequate hospital environments and a high risk of violence and lack of safety, with overuse of containment measures such as locking of wards, control and restraint and seclusion (Davenport, 2002; Department of Health, 2002; Haigh, 2002; Holmes, 2002; Sainsbury Centre for Mental Health, 1998; 2005).

The lack of focus regarding the purpose of acute inpatient wards led to research to define exactly what the purpose of acute inpatient care should be. The mental health services policy implementation guide (MHPIG) for acute services stated in 2002:

> "The purpose of an adult acute psychiatric inpatient service is to provide a high standard of humane treatment and care in a safe and therapeutic setting for service users in the most acute and vulnerable stage of their illness. It should be for the benefit of those service users whose circumstances or acute care needs are such that they cannot at that time be treated and supported appropriately at home or in an alternative, less restrictive residential setting." (Department of Health, 2002: p.5).

Whilst the MHPIG guidelines emphasised the importance of therapeutic activity and structure on wards, little guidance was given as to what the nature of such activities should look like. The Tompkins Acute Ward study utilised interviews with multidisciplinary staff to gain consensus on the role of acute inpatient care (Bowers, Simpson, Alexander et al., 2005). They suggested 5 themes regarding the function of acute care:

1. To keep patients safe
2. To assess the nature, type and extent of patients' problems and patients' response to treatment
3. Provide treatment for patients' mental illness
4. Meeting and addressing patients' basic self-care deficits and needs
5. Providing physical health care and treatment, including diagnostic procedures and the care and treatment of chronic conditions (Bowers et al., 2005)

The ways these objectives were achieved were through 'containment' (sedation, de-escalation, physical restraint, restrictions); 'presence and presence+' (spending time with patients, engagement with patients, building trust and therapeutic relationships); 'treatment provision' (medication, therapeutic relationship, a spectrum of activity-based to psychotherapeutic groups) and 'management, organisation and co-ordination' (admission, discharge, handover, Mental Health Act documentation, liaison with community services). They concluded that the nature and purpose of acute psychiatry could be defined as follows:

> "Patients are admitted to acute psychiatric wards because they appear likely to harm themselves or others, and because they are suffering from a severe mental illness, and/or because they or their family/community require respite, and/or because they have insufficient support and supervision available to them in the community. The tasks of acute inpatient care are to keep patients safe, assess their problems, treat their mental illness, meet their basic care needs and provide physical healthcare. These tasks are completed via containment, 24-hour staff presence, treatment provision, and complex organisation and management." (Bowers et al., 2005: pp.633-4).

Around the same time as the Tompkins study, the Sainsbury Centre for Mental Health ran a project to implement changes across 4 NHS trusts over 3 years. They concluded that acute inpatient care still required greater clarity regarding its role and function:

> "There is still too much reliance on inpatient care fulfilling the role of preventing harm or managing risk for society as a whole. . .There is a fundamental incompatibility between the concept of recovery-focused, therapeutic and user-centred care and the reality of a service whose underlying objectives are still often about compliance and control. Staff at all levels struggle with this dichotomy. Service users struggle to find anything therapeutic in a service that focuses on their problems and deficits, that questions their competence and takes away their autonomy" (Sainsbury Centre for Mental Health, 2006: p.84)

In response to these challenges, the National Institute for Health and Care Excellence (NICE) published guidance in 2006 on managing violence in acute inpatient settings and in 2011 on improving service user experience (NICE, 2006; 2011). However, an independent inquiry by the charity MIND in 2011 suggested that many of these concerns were still apparent and recommended that there were still issues in patients being treated with humanity (through staff interactions, ward cleanliness and reliance upon force); patients' individual needs being

taken into account; access to services when in crisis and the medical emphasis within acute care (MIND, 2011). Such recommendations follow the general call for acute services to adopt a recovery focused approach, placing patients at the centre of care (Healthcare Commission, 2008). At a government level, the policy 'No health without mental health' (HM Government, 2011) seeks to tackle mental health on a wider public health scale, with initiatives to promote mental wellbeing and reduce stigma. With this policy has come a commitment to funding mental health strategies.

1.2.2 The current situation:

A briefing produced by the Mental Health Network within the NHS Confederation in January 2014 outlines key facts and trends in mental health to date (Mental Health Network, 2014). Despite the government's policies of investment and parity in mental health, investment decreased in real terms by 1% in 2011/12 from the previous year (Mental Health Strategies, 2012). There has been increased funding for psychological therapies by 6% in real terms, due to the Improving Access to Psychological Therapies initiative, although this initiative does not include the arts therapies and focuses primarily upon talking therapies, and cognitive behaviour therapy in particular. To date, no figures have been released for 2012/13 but a freedom of information request from the British Broadcasting Company suggested there has been a 2.36% real terms reduction of investment in mental health services between 2011/12 and 2012/13 (BBC News, 2013).

The last psychiatric morbidity survey was conducted in 2007 and found 17.6% of the population aged between 16 and 64 met criteria for one common mental disorder and 0.4% of the population had a psychotic disorder (Health & Social Care Information Centre (HSIC), 2009). Of those identified as having a disorder, 24% were receiving treatment. Household income was strongly correlated with incidence of mental health problems, and was stronger for men than women. Rates of suicide by people with mental health problems have risen and whilst this may be due to changes in the way that suicide is reported, it has also been suggested that the economic situation within the UK may also have contributed.

Between 2012/13 nearly 1.6 million people were in contact with specialist mental health services (Health & Social Care Information Centre, 2013a). Of these, 105,224 (6.6%) spent some time in hospital that year. This is an increase of 0.3% from 2011/12. The Mental Health Network survey of activity in crisis services suggests that there has been an increase in demand for crisis services in the last 12 months although only 20% of the sample responded in this

survey (Mental Health network, 2014). The number of bed days in hospital was just over 8 million in 2012/13 which represented an increase of just over 515,000 bed days from the previous period (HSIC, 2013b). The Care Quality Commission (CQC) has also raised concerns about occupancy levels in inpatient settings: 16% of the wards visited in 2011/12 had occupancy levels of 100% or more, and around half of wards had an occupancy level of 90% or less (CQC, 2012). There were 50,408 detentions under the mental health act in 2012/13- an increase of 4% than the previous period. Of those who were in hospital, 45.6% were subject to the Mental Health Act and just over half of these people were male. The number of inpatients being subject to the Mental Health Act also appears to have increased by around 8.7% (HSIC, 2013a). The Mental Health Network suggest that this represents "a continuing trend for psychiatric beds to be increasingly occupied by people subject to some form of legal restriction" (Mental Health Network, 2014: p.1). Around 42% of inpatients in white ethnic groups were subject to some form of restriction whilst around 70% of inpatients in Black or Black British ethnic groups were subject to compulsory detention in 2012/13 (HSIC, 2013a).

The most recent NHS Benchmarking network survey, one of the most comprehensive across mental health trusts in the UK, found a reduction in adult inpatient bed provision with around 2% fewer beds in 2012/13 compared to the previous year. Admission rates appeared to be consistent. This has been interpreted by the benchmarking network as an increased efficiency with reduction in lengths of stay. Patients stayed for an average of 30 days in 2012/13 compared to 32 days in 2011/12 whilst rates of readmission fell from 10% in 2012 to 9% in 2013 (NHS Benchmarking Network, 2013).

In terms of service user experience, the Care Quality Commission's 2013 survey suggested most viewed their experiences positively with over two thirds rating their experience between 7 and 10 out of 10, definitely feeling they had been listened to carefully and definitely having had their views taken into account. Only 40% received talking therapies but out of these, 89% found it to be helpful (HSIC, 2013b).

In summary, acute inpatient care has been subject to many pressures both regarding finances and provision of beds. It is clear that changes in funding and service organisation have impacted upon the care provided resulting in calls from charities to change the culture of care within hospitals. Despite these pressures it appears that within the last 3 years, rates of admission have stabilised with patients having shorter lengths of stay, which are on average 30 days (NHS Benchmarking network, 2013).

1.2.3 An overview of music therapy and arts therapies provision within mental health care

Music therapy has been a part of UK mental health care over the last 50 years. Few historical accounts of the development of the music therapy profession in mental health services within the UK exist (Barrington, 2005; Tyler, 2000). Barrington's thesis examined key events in the professionalisation of music therapy, the driving forces for this and the arguments for and against. A few years earlier, Helen Tyler (2000) provided a detailed account of many of the events that led to the development of modern music therapy practice.

Tyler traces the development of the use of music within hospitals in the early 20th century, noting the use of musical activity within asylums in the late 1800's through to the creation of the Council for Music in Hospitals at the end of the Second World War, which provided musical performances and concerts within a range of hospital settings. As musical activities became widespread within hospitals, Tyler notes that within the medical profession there was still a challenge to convince of the wider benefits of music beyond activity and entertainment. Barrington links this to the hierarchical relationships that are argued to exist within the medical profession (Barrington, 2005). With the advent of the Society for Music Therapy and Remedial Music (later renamed the British Society for Music Therapy), came significant developments in the field of psychoanalysis and groups through the work primarily of Foulkes and Bion (Foulkes, 1991; Bion, 1961). Tyler notes how music therapists working in hospitals during the 1950s became aware of psychotherapeutic approaches to treatment and began to incorporate these ideas within their own work. Therapists, most notably Juliette Alvin (1966) and later, Mary Priestley (1975), began to use improvisation as an equivalent of free association, allowing atonality and dissonance and focusing upon the process of music making rather than the end product. Such an approach enabled an emphasis upon the interactions between group members and the formation of relationships within the music. Tyler notes that this emphasis upon improvisation and relationships demarked a new approach to the therapeutic use of music.

Similar developments were seen in the wider arts therapies, which consist of dance movement, drama and art therapy. By the 1970's music therapists were working across the whole institution providing a range of music therapy activities from individual work to group improvisation, music appreciation groups and musical performances (Fenwick, 1973; Priestley, 1975). Helen Odell-Miller provides examples from her experience at Fulbourn Hospital in

Cambridge of how arts therapies posts expanded rapidly, particularly in line with developments in social and therapeutic community approaches:

> "In the early 1980s at Fulbourn Hospital, there seemed no doubt about the need for music therapy, within most clinical teams. At that time, the tradition of social therapy, as developed by psychiatrist David Clark (1981) and group work within a general therapeutic community milieu, was well established. Clients were used to working in groups in nearly all the wards and units in the hospital, and there was no question about the value of this. . . Before I arrived to set up the music therapy service, there was already an Art therapy department, and soon after the music therapy service was set up, a dramatherapist was appointed. . ." (Odell, 1992)

During this time clinical techniques were developed and incorporated into training programmes leading to wider provision of music therapy in mental health settings across the UK (Odell-Miller, 2007). However, the move to care in the community posed a number of challenges for arts therapists. Odell (1986) contributed to a parliamentary sub-group regarding the 'devolution of services for patients who are mentally ill'. On behalf of the music therapy profession she argued for clients not to be denied treatment due to resettlement or discharge, for music therapy to be written into 10 year plans and for funding and resources to be provided in Community Mental Health teams. By the early 1990s arts therapies faced further pressures, having grown dramatically in the previous decade. Grandison, an art therapist also working at Fulbourn, evaluated the current service provision noting decreasing group attendances by patients, the changing role of acute services, particularly decreasing lengths of stay and concern regarding professional boundaries (Grandison, 1991). In a paper delivered in 1992, Odell notes the potential for posts to be frozen or cut whilst on the other hand, posts were still being commissioned as services saw first-hand potential value of arts therapies (ibid.). The arts therapies professions recognised the important role research would have to play in providing evidence for funders and commissioners in continuing services. This led to a range of research from service evaluations through to randomised controlled trials which will be discussed further in section 1.4 and Chapter 3. Of note however, is the inclusion of music therapy within the NICE Guidelines for Schizophrenia in 2009 which was the first time evidence for the use of music therapy was recognised within national guidance (NICE, 2009). The recognition may have served as a protective factor for some NHS arts therapies posts. However, the recommendations, based only upon evidence for this single diagnostic group were difficult to implement practically within services serving a heterogeneous population.

1.2.4 Current provision in the UK and local context

The themes of uncertainty, and need to provide evidence have continued within the arts therapies in mental health care up to the present day. Whilst the government has heavily promoted access to psychological therapies, the remit of this policy has focused only upon talking therapies and cognitive behaviour therapy for depression in particular (Department of Health, 2011). In 2007, there was a renewed, interest in the provision of arts in health care settings. A report commissioned by the Department of Health advocated that arts and health care should be integral to health, healthcare provision and environments, and called for the Department to make a clear statement on the value of arts and health (Department of Health, 2007). Around the same time, the Mental Health Foundation published two reports one evaluating three trial services for arts therapies (none of them music therapy and all in the community) and six 'participatory arts projects' in Scotland (Mental Health Foundation, 2006; 2007). In both, recommendations were to raise the profile and funding of arts therapies and arts in health and to recognise, support and develop their potential to promote social inclusion, health improvement and recovery.

Despite the renewed interest in the role of arts in health care, arts therapies services, as with other allied services within hospitals, have continued to be cut within the NHS. Between 2010 and 2012, according to the NHS Hospital and Community Health Services non-medical workforce census, arts therapies posts reduced from 691 to 584 nationally, of which the greatest reduction was seen in London (33 posts). The average post in 2012 was 0.67 full time equivalent. This included arts therapies posts across different services within the NHS and does not distinguish between the different arts modalities or populations served (NHS Information Centre, 2011; 2013).

Despite these cuts, the number of music therapists registered in the UK continues to grow with 720 registered with the Health and Care Professions Council (HCPC) in 2012 (HCPC, 2012). Despite the historical growth and adoption of the arts therapies within acute adult mental health care, services have faced continuing challenges within the rapidly changing services. The reduction in beds, emphasis on shorter hospital stays, financial pressures and lack of integration and understanding within the multidisciplinary team have led to cuts in arts therapies services and questions regarding the best way to provide such services within new healthcare frameworks. An overview of music therapy approaches will now be presented followed by a summary of the research evidence of music therapy in mental health care.

1.3 Music therapy approaches in mental health

As outlined in section 1.2.3, approaches to music therapy developed through continued contact and work with particular client groups. Following from early work in hospitals, the therapeutic potential of music was often noted in terms of its ability to involve and engage patients for whom verbal communication and interaction were severely limited (Alvin, 1966; Priestley, 1975, Tyson, 1981). This practice-based development has led music therapy to be informed by an eclectic range of theories, models and approaches. Within the UK, two basic approaches have developed in parallel, advocated by a particular training method or school. Over the last 10 years, through the training and education committee of the professional body of music therapists (the British Association for Music Therapy, BAMT), practice within the UK has become more integrated. A recent call to the profession was made in a keynote speech at the BAMT conference to fully integrate practice (Maratos, 2014).

1.3.1 Psychoanalytic/Psychoanalytically informed/Psychodynamic music therapy

Stemming primarily from Priestley's work in the 1970's (Priestley, 1975; Priestley, 1994), music therapists have incorporated ideas from the fields of psychoanalysis and psychodynamic therapy into their practice. Concepts of transference, counter-transference, object relations and attachment theory are used by the music therapist to understand the evolving relationship both within and outside musical improvisation (Odell-Miller, 2003). These ideas were developed particularly in the 1980s and 1990s in relation to their application to musical improvisation (Heal Hughes, 1995; Davies and Richards, 2002; John, 1992; Odell, 1988; Odell-Miller, 2001a; 2003; Streeter, 1995; 1999a; 1999b; Towse, 1991; Woodcock, 1987).

1.3.2 Creative music therapy

This approach stems from the work of Paul Nordoff and Clive Robbins, where an emphasis is placed upon the impact of the music upon the client (Nordoff & Robbins, 1977). Their original approach was influenced both by anthroposophy and humanistic psychology (Ansdell, 1995). Whilst music was improvised, the therapist utilised greater structure and form and a greater use of pre-composed music for specific purposes. In contemporary practice, psychotherapeutic constructs may inform the work but there is a greater emphasis upon the role of music as a therapeutic agent (Ansdell, 1995). More recently within this tradition, music therapists have

looked at music therapy practice in mental health from an ethnographic, sociological and social capital perspective (Ansdell, 2014; De Nora, 2013; Procter, 2011)

1.3.3 Theories from developmental psychology:

Theories developed from mother-infant observations have greatly influenced music therapy practice. The work of Daniel Stern, Colwyn Trevarthen and Stephen Malloch has explored the role and function of nonverbal communication between mothers and infants and later applied these concepts to relationships within psychotherapy. Daniel Stern in particular, developed theories of 'vitality affects', 'affect attunement' and 'intersubjectivity' which music therapists immediately saw as relevant to the way in which they communicated musically with their clients. Just prior to his death, Stern published a book linking his theories to the practice of the arts therapies (Stern, 2010). He notes how clinical improvisation techniques employed by therapists make use of 'vitality forms to share or interchange experience' and the possibility for 'intersubjective meetings' to occur through musical interplay:

> "As the therapist and patient enter the same dynamic flow created by the music, there will emerge moments of "mutual recognition" when they both realize, at the same time, that they are sharing a common experience. This is brought about through affect attunement, joint attention and mutual confirmation. Such shared moments then act much as do 'moments of meeting' in changing the relationship and moving it to a deeper level of intersubjectivity." (Stern, 2010: p.140).

1.3.4 Recent developments in music therapy approaches

Clinical theoretical thinking has continued to evolve and adapt, particularly in the last two decades. There has been a tendency to move towards more theoretically eclectic approaches whereby theories are used when most appropriate and fitting for that particular client, client group or setting. Odell-Miller (2001a) notes how when working in the early 1980's the only model for work in psychiatry was that of Analytic Music Therapy, developed by Priestley (1975). She explains how this model limited the work she could do in a psychiatric unit, which focused upon group work. This led her to develop a "psychoanalytically informed" mode of work, influenced in particular, by the social and therapeutic community theories of the setting. Davies and Richards (1998; 2010) were instrumental in developing and adapting group analytic theory to group music therapy processes in mental health. In their 1998 paper, the therapists

explain their adaptations to counter the short stay of patients in an acute setting and the value of working as co-therapists. More recently, music therapists have adapted their thinking to incorporate theories relevant to the particular client group that they are working with. Robarts and Sloboda (1994) identified musical features or "symptoms" prevalent when working with eating disordered populations which they incorporated into their clinical thinking, influenced primarily by object relations theory and that of musical dynamic form, whilst Compton-Dickinson (Compton-Dickinson, Odell-Miller & Adlam, 2012) has developed a cognitive-analytic music therapy approach to working with female offenders in forensic settings.

There has also been a move by some music therapists away from medically and psychologically oriented theories towards sociological theories. The development of Community Music Therapy openly challenged practice, sometimes termed the 'consensus model' (Ansdell, 2002) in the early 2000s and argued for a greater emphasis upon the performance of music within more open community settings. This thinking has been developed in mental health with notions of social capital in mental health groups (Procter, 2011) and integration of music therapy services from specialised hospital resources to more public groups in the wider community (Ansdell, 2014; De Nora, 2013).

1.3.5 Approaches to music therapy group work in mental health

Despite the overall emphasis upon improvisation within music therapy training, music therapists work flexibly with patients and utilise a range of musical and therapeutic tools. Whilst music therapists work with both individuals and on a community level, the most common form of music therapy provision within an NHS mental health context is within groups. Groups may be open, semi-open or closed and may take place in a room on the ward itself or off the ward, usually in an occupational therapy department or larger group room. Musical activities are generally used flexibly in combination with or without verbal reflection.

Music may be actively produced, most commonly through instrumental or sung improvisation or reproduction of precomposed music; or receptive, for example, listening to pre-recorded music. Other techniques include song-writing, rap and basic tuition to enable access to an instrument. The type of musical interaction, level of structure and amount of verbal discussion may vary depending upon the music therapist's approach, patient characteristics and diagnosis (Drieschner and Pioch, 2001). Whilst models of music therapy vary in theoretical underpinning and approaches, all place the development of a relationship between therapist and patient at the heart of the intervention. This is in contrast to studies of music interventions, where music is used solely for its specific effects on the listener.

In musical improvisation, different levels of structure or focus may be used. At one end of the spectrum is free improvisation, where no prior rules are given and both patient and therapist play freely. As they play together, the music therapist seeks to meet the patient in the music by matching, mirroring or complementing a component of their music (for example, timbre, pitch, a motif or phrase, harmony, tempo). In structured improvisation, the therapist may offer a structure, instruction or rule to encourage musical participation. Alternatively within thematic improvisation a theme or idea may be suggested such as an image, memory or emotion on which both patient and therapist play (Wigram, 2004).

The level to which verbal discussion is used will depend both upon the therapist's approach and the patient. Discussion may be kept very basic and instructional, involve the therapist reflecting upon the music or the therapist encouraging reflection upon the musical content, interactions and emotions arising for the patient.

Opening and closing activities may be used at the beginning of the session to mark boundaries, encourage use of instruments, active participation and to ground participants. Generally the structure is patient led and the activities throughout the session are introduced flexibly based upon the interaction and response of participants.

1.4 Evidence base for music therapy in mental health

Currently, two Cochrane reviews have evaluated the effectiveness of music therapy for depression (Maratos et al., 2008) and schizophrenia (Mössler et al., 2011). A further two systematic reviews have examined the use of music therapy for serious mental disorders (Gold et al., 2009) and the influence of music on the symptoms of psychosis (Silverman, 2003a). To date, there have been no controlled trials of other single major diagnoses including personality disorders and anxiety disorders within an inpatient setting.

Schizophrenia has been one of the most studied diagnoses in music therapy for mental health. The most recent Cochrane review (Mössler et al., 2011) identified eight randomised controlled trials of the effects of music therapy compared to placebo, standard care or no treatment. All but one paper (Ceccato, Lamonaca, Caneva, Gamba, Poli & Agrimi, 2009) studied inpatients exclusively. Six studies provided large group therapy (Ceccato et al., 2009; He, Liu & Ma, 2005; Li, Ren, Li & Li, 2007; Tang, Yao & Zheng, 1994; Ulrich, Houtmans & Gold, 2007; Wen, Cao & Zhou, 2005) one, individual therapy (Talwar, Crawford, Maratos, Nur, McDermott & Procter, 2006) and one a mixture of group and individual therapy (Yang, Li, Weng, Zhang & Ma, 1998). Whilst all used a range of music therapy techniques, four trials tended towards greater use of

receptive methods, such as listening to music (Ceccato et al., 2009; He et al., 2005; Li et al., 2007; Wen et al., 2005), two used primarily active music making of improvisation and singing (Talwar et al., 2006; Ulrich et al., 2007) and two used a more equal combination of active and receptive methods (Tang et al., 1994; Yang et al., 1998). All used verbal reflection apart from the Ceccato et al. study. Therapy frequency ranged from 1 to 6 sessions per week with duration from one to four months. The meta-analysis suggested that music therapy was superior to standard care for global state, general mental state, negative symptoms, depression, anxiety and social functioning with moderate to large effects in the short to medium term. The reviewers note that the strongest effects were in studies where therapists had a demonstrable qualification in music therapy and a greater number of sessions provided.

An earlier meta-analysis evaluated the influence of music upon symptoms of psychosis both in terms of the effect upon different symptom types (general, catatonic behaviour and cognitive symptoms) and the types of music activities provided (Silverman, 2003a). Comparisons were made between music therapy techniques and passive listening, long-stay and other types of institution, live or recorded presentation of music, function of the music (distraction, contingency or structured activity), classical and non-classical music, whether the music was patient preferred or therapist selected and gender. Whilst the databases searched for this review were reported, the overall reporting did not fulfil criteria for a systematic review. Studies were included if they reported any quantitative symptom-related outcome. Nineteen studies were identified, of which 16 utilised within subject designs (3 of which were single case studies) and 3 were between groups. The majority of studies (N=9) sought to evaluate the effect of music listening upon symptoms whilst only five examined the influence of application of clinical music therapy techniques (Brotons, 1987; Hodgson, 1996; Pavlicevic, Trevarthen & Duncan, 1994; Steinberg, Kimmig, Raith, Gunther, Bogner & Timmerman, 1991; Thaut, 1989). The meta-analysis found a significant effect size for catatonic symptoms. Both live and recorded music had significant effects, but not when used in combination. Effects were significant for both passive listening and music therapy techniques and different institutional stays, suggesting that music in itself has a particular effect upon symptoms of psychosis and regardless of whether the institution was long-stay or not. Effects were significant when used for distraction or as a structured activity. Only one study used music as a contingency and the effect size for this was not significant. Non-classical music had a significant effect whilst classical music did not. Both patient preferred and therapist selected music had significant effects, as did male and female only studies. Mixed groups did not have a significant effect. The meta-analysis is limited in terms of the quality and heterogeneity of studies and the experimental nature of the majority of included papers.

In depression, the Cochrane review (Maratos et al., 2008) identified only 5 controlled trials, 3 of which were in elderly populations (Chen, 1992; Hanser, 1994; Zerhusen, Boyle & Wilson, 1995), one with adolescents in school (Hendricks, 1999) and only one with an adult psychiatric inpatient population (Radulovic, Cvetkovic & Pejovic, 1997). As the studies were so few, with diverse populations and music therapy methods, a meta-analysis was not performed. The reviewers concluded that from these five "small-scale" studies, music therapy is associated with short-term improvements in mood compared to standard care alone although they cautioned that due to the low methodological quality of studies the effectiveness of music therapy for depression is still unclear (Maratos et al., 2008). The study of adult inpatients with depression by Radulovic, Cvetkovic & Pejovic (1997) utilised group analytic guided imagery in music for twenty minutes, twice a week for six weeks for patients hospitalised with moderate to severe depression. Patients were only included if they "showed sufficient intellectual, association and introspective capacity, as well as a certain degree of musical inclination" and were excluded if they were professional musicians, had paranoid ideation or were recently bereaved. Sixty patients were allocated to music therapy plus standard care, or standard care alone. Standard care consisted of antidepressant medication and hospitalisation. The authors stated that patients were randomised although no details were provided regarding the randomisation process. Symptoms were rated on the Beck Depression Inventory. At the end of six weeks self-rated depression was lower for the music therapy intervention compared to the control (mean 16.5 for the music therapy group and 25.1 for standard care). One further randomised controlled trial has been published since the Cochrane review which sought to determine the efficacy of individual music therapy for depression (Erkkilä, Punkanen, Ala-Ruona et al., 2011). Music therapy consisted of free improvisation and discussion informed by psychodynamic theory, 60 minutes, twice a week for 10 weeks for adults aged 18-50 diagnosed with unipolar depression. Patients were not hospitalised and were excluded if they had a history of repeated suicidal behaviour or psychosis, acute or severe substance misuse, if the severity of depression prevented assessment or engaging in verbal conversation or they had insufficient knowledge of the Finnish language. Seventy-nine patients were randomly allocated to music therapy plus standard care or standard care alone. Standard care consisted of 5-6 sessions of short-term psychotherapy and psychiatric counselling including medication. The primary outcome was depression symptoms, rated on the Montgomery-Åsberg Depression Rating Scale. Secondary outcomes included anxiety, general functioning, quality of life and alexithymia. At 3 month follow-up, patients in the music therapy group showed greater improvement in depression, anxiety and general functioning compared to the control.

Improvements were also seen in alexithymia and quality of life and sustained at six month follow-up but these were not statistically significant when compared to the control.

As music therapy is often provided to a range of psychiatric diagnoses, a meta-analysis (Gold, Solli, Krüger & Lie, 2009) sought to examine the effects of music therapy for serious mental disorders in comparison to standard care, seeking in particular, to test whether a dose-response relationship exists in music therapy and whether the type of disorder is predictive of the effect. The meta-analysis was limited again by the quality of research designs although the authors employed a systematic search strategy and note that results did not seem to be impacted by the study design. Fifteen studies were included, 8 of which were randomised controlled trials, 3, controlled clinical trials and four observational studies. Around two thirds of the patients in studies had a psychotic disorder, whilst one third had a non-psychotic disorder. Of the non-psychotic disorders, depression was most common. Delivery of music therapy ranged from 1-6 sessions per week over 1-6 months. Two thirds of the studies utilised a group format; 3 studies utilised individual and two used a combination. A combination of activities was used with a flexible degree of structure. Active forms of music making (improvisation, other active music making, singing, song-writing) were described in the majority of studies, whilst listening to music was central in 6 studies. Verbal reflection was also common, described in 11 of the studies and central in 4. Theoretical orientation tended to be eclectic with only 2 describing a psychodynamic approach and one, a cognitive approach.

A dose-effect response was found for general mental state (small effect after 10 sessions, large effect after 39 sessions); negative symptoms (small effect after 3 sessions, large effect after 42 sessions); depression (small effect after 4 sessions, large effects after 16 sessions) and general functioning (small effect after 3 sessions, large effect after 51 sessions). Two studies of music therapy for depression suggested a large and significant effect upon anxiety. Positive symptoms did not have a significant effect although the authors note that the confidence interval included potential clinically meaningful effect sizes. Two studies also included measures of musical engagement, which showed a medium effect size and two assessed global state, which showed a low and significant odds ratio. Whilst dose-response was not assessed, the authors note that both these studies included a large number of sessions. There were no differences between music therapy and standard care in the odds of leaving the study early, suggesting that both conditions were well tolerated by patients. Two studies evaluated quality of life, satisfaction with care and medication level, of which no significant effects were found.

Following from this meta-analysis, a pragmatic randomised controlled trial was conducted to examine the effectiveness of individual 'resource-oriented' music therapy for clients in mental

health care with low therapy motivation as compared to treatment as usual (Gold, Mössler, Grocke et al., 2013). The intervention, 'resource-oriented music therapy' was developed theoretically through case studies of clinical work in Norway (Rolvsjord, 2010), and then manualised according to principles of the contextual model of psychotherapy (Rolvsjord, Gold & Stige, 2005; Waltz, Addis, Koerner & Jacobson, 1993). Such a method acknowledges the complexity and flexibility inherent within many psychotherapeutic interventions and delineates 'unique and essential', 'essential but not unique', 'acceptable but not necessary' and 'proscribed' principles of the therapy (Waltz et al., 1993). The intervention stemmed from the recovery model in mental health with musical techniques closely related to creative music therapy. What the authors define as unique is the emphasis upon the promotion of patient strengths and resources, and use of musical activities as preferred and led by the patient. For example, if a patient expresses a wish to learn an instrument or piece of music, this will be incorporated into the therapy.

As the randomised controlled trial was pragmatic in nature, the researchers aimed to keep all aspects of the study as close to clinical practice as possible. Participants were selected on the basis of low motivation for therapy rather than a specific diagnosis and recruited across inpatient, day patient and outpatient settings. All participants had access to any other treatments that were usually available within their services for the duration of the study. In total, 144 patients took part and they were randomised equally to music therapy or treatment as usual. Individual music therapy was offered for 45 minutes, twice a week for 3 months, calculated on the basis that around 20 sessions would be required for an effect on schizophrenia, and that a medium effect on symptoms and functioning across disorders would be reached after 10-24 sessions (Rolvsjord, Gold & Stige, 2005; Gold et al., 2009). The primary outcome was negative symptoms as assessed on the Scale for the Assesment of Negative Symptoms (SANS) (Andreason, 2000), with secondary outcomes of general symptoms, functioning, interest in music, motivation for change, self-efficacy, self-esteem, vitality, affect regulation, relational competence and social relationships.

Participants receiving music therapy received a mean of 17.5 (s.d. 5.5) sessions, whilst two thirds (n=24) received a minimum of 18 sessions. Analyses were done as intention to treat and utilised generalised estimating equations. The effect on negative symptoms was significant in favour of music therapy (p<0.001) with a medium effect size. Effects on functioning, global impression, social avoidance through music and vitality were all significant (p<0.01), whilst tendencies were also found for motivation, affect regulation and social relationships (p<0.05). There were no significant effects on general symptoms, activity and engagement in music,

motivation for change, self-efficacy, self-esteem, relational competencies, or self-reported social relationships. Effects remained significant when adjusting for age and sex, whilst therapist and site effects accounted for less than 0.1% of the variance.

The authors highlight the advantage of the pragmatic nature of the trial, and in particular the low drop-out and non-completion rates given the low motivation of participants for therapy, leading them to suggest music therapy "might help to keep clients in contact with psychiatry" (Gold et al., 2013: p.327). They note also that talking therapies may not be of benefit for this client group and therefore highlight the potential for non-verbal musical means of relating.

A further study, stemming from the adherence measures used for therapists assessed associations between music therapy techniques and outcome (Mössler, Assmus, Heldal, Fuchs & Gold, 2012). They found that within the randomised controlled trial, reproduction techniques (such as singing or playing pre-composed songs or learning musical skills) were used most intensely followed by production techniques (free, structured, thematic or communicative improvisation). A significant negative effect was found of reception techniques (client listening to music, not actively participating) (p=.0041) whilst there was a tendency for reproduction techniques to have a positive effect upon interpersonal problems and social relationships (p=.0097) and production and reception techniques to have a negative effect (p=.031 and p=.0286 respectively). The authors note the small sample size and use of conservative statistical measures (Bonferroni adjustment) and inclusion of only 3 sessions from an average total of 19, which may have contributed to a lack of significant effects.

In summary, the evidence base for music therapy is relatively small with only a few methodologically rigorous studies and heterogeneity in the approaches and techniques applied. In spite of these shortcomings, the meta-analyses to date, suggest good evidence for the effectiveness of music therapy in the treatment of schizophrenia and promising evidence for the treatment of depression. Whilst there is a paucity of research into other psychiatric disorders, the meta-analysis by Gold et al. (2009), suggests that music therapy can have significant effects upon general mental state, negative symptoms, depression, general functioning and musical engagement, across both psychotic and non-psychotic disorders. Silverman's meta-analysis (2003) suggests that for psychosis in particular, the type of musical activity may not be as important as the fit of the music with the preferences of the patient. Similarly, the gender composition of the group also appears to have an impact with significant effects only seen in single gender groups. To date, little attention has been paid to the acute inpatient setting, where groups are often provided to a range of diagnoses and patients present with complex and challenging needs. Few studies have evaluated the means by which

music therapy is assumed to be beneficial for patients. Whilst some have argued for the role of active music making, it may be that the type of music making has differing effects upon clinical outcomes although to date, only one study has begun to address this. The use of randomised controlled trials is relatively recent within music therapy, and may be explained in part by placing music therapy research within a historical context. This will now be considered in the following section.

1.5 Methods of research in music therapy

1.5.1 Historical overview

In line with practice-based development, work of music therapists in mental health care was first published as overviews of service and practice and case studies (Alvin, 1966; Bruscia, 1991; Fenwick, 1973; Hadley, 2002; Priestley, 1975). The purpose was as much to describe practice as to develop theory and apply this to models of work. For example, Odell-Miller has published a sequence of articles defining and refining concepts of psychoanalytically informed work in mental health (Odell-Miller, 2007). Similarly within the profession, debates regarding the use of psychodynamic concepts and verbal reflection in therapy sought to define exactly where music therapy sat within the spectrum of psychotherapies and to define its role within them (Aigen, 1999; Ansdell, 1999; Brown, 1999; Pavlicevic, 1999; Streeter, 1999b). Barrington (2005) suggests that such a debate may have arisen from the stage of development of the profession at that time. From the late 1990s onwards, books describing music therapy practice with specific populations were published, including work in psychiatry (Wigram & De Backer, 1999) and approaches to group work (Davies & Richards, 2002).

Within the profession came the recognition that if music therapy was to continue, therapists would need to be able to justify not only single cases, but evidence for practice with specific populations. Within the United States, a tradition of quantitative research had already evolved, based in part due to the adoption of behavioural theories and approaches to practice however, such approaches had not be regularly applied to practice in the United Kingdom.

Throughout the 1980s and onwards, service evaluations began to be incorporated into UK research (Bunt, Pike & Wren, 1987; Moss, 1999; Rowland & Reed, 2011). Other therapists sought to examine musical processes and interactions between patient and therapist. Pavlicevic undertook her doctoral studies investigating the application of musical assessments to different psychiatric states (Pavlicevic & Trevarthen, 1989) which led to the development of a musical interaction rating scale for schizophrenia (Pavlicevic, 2007), whilst Procter (1997)

investigated predictability within the therapist's music and its role in work with psychiatric patients.

In 2006, the first randomised controlled trials conducted in the UK were published (Odell-Miller, Hughes & Westacott, 2006; Talwar, Crawford, Maratos, Nur, McDermott & Procter, 2006). A further exploratory randomised controlled trial for persistent post-traumatic stress disorder was published in 2012 (Carr, d'Ardenne, Sloboda et al., 2012). These studies included larger sample sizes and incorporated multidisciplinary team working with involvement of psychiatrists and psychologists in the research methodology. Cochrane reviews followed this development with a review of music therapy for schizophrenia in 2005 (Gold, Dahle, Heldal & Wigram, 2005) and a review for depression in 2008 (Maratos, et al., 2008).

1.5.2 Debates regarding quantitative and qualitative methodologies

The push to provide evidence for practice led to debates regarding the appropriateness of quantitative methodologies. Arguments against this suggested that methods developed primarily from a medical model were not compatible with psychotherapeutic approaches where therapists worked with diverse client groups in areas not directly related to symptoms but with the aim of improving aspects of a person's emotions, relationships and wellbeing (Edwards, 2004). It may be argued therefore, that quantitative approaches to evaluating music therapy are not valid, given a complex array of processes and the range of clinical, social and emotional outcomes. In 2010 in his keynote speech, Wigram argued for the need to encompass three arms of research in evidence based practice: clinician report and client report alongside randomised controlled trials and evidence based practice (Wigram, 2010). Such an argument reflects the tendency for the notion of 'evidence based practice' to favour evaluations of effectiveness over 'softer' forms of evidence via patient and clinician report (Vink & Bruinsma, 2003). Whilst music therapists may have looked to research as a means of justifying and supporting posts, the relative lack of evidence of effectiveness may have resulted in this having the opposite effect, with loss of posts justified by there being 'no evidence of effectiveness' when in fact, the lack of evidence is due to an absence of research, rather than evidence that proves ineffectiveness (Edwards, 2002).

More recently, music therapists have developed their use of mixed methods within studies looking at both process and outcome (for example, resource oriented music therapy (Gold et al., 2013, Mössler et al. 2012)) and combining quantitative and qualitative perspectives within a single study (eg. Carr et al., 2012). Such multiple approaches to evaluating the evidence seek

to provide more meaningful data than effectiveness alone. Music therapists have also begun to address the requirements of evaluating complex interventions through the use of pragmatic, feasibility and acceptability studies (Blythe Lagasse, 2013) with greater sophistication in how they build programmes of research to fully define use of music therapy for a specific context and client group (Shoemark, 2013).

1.6 Conclusion

Changes to acute adult psychiatric inpatient care have led to severe challenges in how best to meet the care needs of people when suffering crisis or acute episodes of illness. Currently within the NHS, bed numbers are being reduced in hospitals, and lengths of stay are increasingly short. This poses a challenge to the practice of music therapy within these settings, which has traditionally utilised much longer periods of work.

Within music therapy research, it is clear that to date there has been little distinction between interventions offered in acute stages of illness, and those offered long-term. If a greater number of sessions are required for clinically meaningful effects, then this poses a question as to the purpose and value of music therapy within acute hospitals, where length of stay is short. Frequency, duration and session length vary widely even within inpatient settings and little is known about the impact of this upon treatment outcomes in these settings. Whilst the wide variation of practice within mental health has been identified in existing literature reviews, it has been beyond the scope of the reviews to assess the ways in which music therapy techniques have been used for work with patients in acute settings, in particular to account for the wide range of presenting problems and shorter lengths of stay. Similarly, the effectiveness of music therapy as delivered within inpatient settings has not been exclusively examined.

The complexity of music therapy suggests that research methods require a range of approaches to move beyond an overall assessment of effectiveness to a means of understanding the processes implicated with clinical outcomes. Such processes are likely to be unique to the local client group and setting and require observation of the sessions themselves and input from the experience of the patient and clinician if they are to be fully understood.

CHAPTER 2

Aims, research questions and rationale

This chapter presents the case for conducting the research within the present thesis, based upon the literature review in chapter one. Rationales for each of the thesis aims are presented, along with the specific research questions.

2.1 Summary of research background

The literature review in chapter 1 demonstrated how acute psychiatric inpatient care has changed rapidly over the last fifty years. Financial and governmental pressures on hospitals have led to lengths of admission decreasing to a national average of 30 days, with evidence that lengths of stay can be as short as 10 days (NHS Benchmarking Network, 2013). Concerns have been raised regarding the quality of care, particularly in terms of access to therapeutic activities and treatments and an emphasis upon medication. Music therapy has a long history in mental health and whilst practice has developed through experience with clients and settings, these have been documented through case studies and reports rather than through empirical investigation. There is now an emerging evidence base for the use of music therapy in the treatment of severe mental illness. The research that exists has taken place across a range of services however, and little attention has been paid to the provision of music therapy specifically in acute inpatient settings. Across all work in mental health, music therapy methods, frequency, duration and session length vary widely (Gold, Solli, Krüger & Lie, 2009) and adaptations to account for the wide range of presenting problems and shorter lengths of stay have not been systematically investigated. Further research is therefore required to understand how best to provide music therapy specifically within an acute psychiatric inpatient setting in terms of the intensity of therapy provision and the manner with which sessions are conducted.

2.2 Intensity of group music therapy in acute adult psychiatric inpatient settings- rationale

Whilst many hospitals offer a comprehensive group programme, the frequency of music therapy groups (usually weekly) and reduced length of patient stay limits the access of patients to interventions. Assuming an inpatient accesses music therapy from the first week of stay, only a maximum of 4 sessions would be available whilst in hospital. If clinical improvement within music therapy requires a minimum of 3 to 10 sessions for a small effect on general, negative and depressive symptoms and functioning, and between 10-24 sessions for a medium effect (Gold et al., 2009), then provision as it currently stands is unlikely to produce meaningful

clinical benefits. One possibility to increase access to music therapy within hospitals would be to offer groups more frequently. Offering sessions twice a week would provide access to a possible 8 sessions, whereas three times per week offers the potential to access 12 sessions which according to Gold et al.'s meta-analysis (2009), may be enough to have a small effect upon general symptoms, negative symptoms and functioning and a medium effect upon depressive symptoms. The authors note that the role of the frequency and intensity of sessions in clinical improvement is still unclear and it is yet to be determined whether there are benefits for greater or lesser intensity or whether this varies for specific client groups. Research into the acceptability of offering group music therapy more than once a week would provide a first step in ascertaining whether such a change would be taken up by patients and how they would perceive this increased intensity of sessions.

2.3 Delivery of music therapy in acute adult psychiatric inpatient settings- rationale

To date, there has been no systematic research into how music therapy is provided in acute psychiatric settings. It is unclear exactly how music therapists have adapted their work to meet the needs of patients in these settings and there has been no systematic examination of which features of practice may be most important when providing groups. Given the wide variation in practice and developments within specific clinical contexts it is likely that music therapists will have adapted their practice to account for some of these unique aspects of the setting. Performing a systematic review of the music therapy literature will provide evidence of current practice and an overview of existing empirical evidence within these settings.

Music therapy is a complex intervention, in that many different factors contribute to the intervention which may or may not be of importance in achieving change. MRC guidance on complex interventions emphasises the need for a good theoretical understanding of causal factors and advocates the use of process evaluations and tailoring of interventions to local contexts (MRC, 2008). The literature suggests that musical engagement and motivation are two potential mechanisms of change (Gold et al., 2009). However, no research has examined whether there are any associations between music therapy components, patient experiences and outcomes, nor how the local context of inpatient provision might impact upon the delivery of music therapy. By focusing research at the 'modelling of process and outcomes' (MRC, 2008) the intervention may further be developed for an acute inpatient context and components of interest identified for future clinical trials.

2.4 Thesis aim, objectives and research questions

The aim of this thesis is to build a model of intensive group music therapy processes and outcomes within acute adult psychiatric inpatient settings by assessing the acceptability of offering an increased frequency of music therapy to patients, identifying specific features of practice in this setting and exploring how these features of practice are perceived by patients and therapists. A systematic review of music therapy literature will provide an initial description of features of international inpatient practice and current research findings. An observational study of group music therapy for acute adult psychiatric inpatients will then assess subjective experiences of patients using self-rated questionnaires and end of therapy interviews. As no single scale exists to assess patient experiences of group music therapy, a questionnaire was developed for the purposes of this study. The development of this scale is presented in chapter 5 as the qualitative methods employed to evaluate its face and content validity also contributed to the theoretical development of an overall group music therapy model. Acceptability will be assessed through patient attendance and subjective comments. Features of practice will be identified through video analysis and therapist self-report and then linked to patient rated outcomes.

The objectives are:

1. To identify how music therapy is delivered within acute inpatient settings.

a) Which clinical methods and activities do music therapists use in sessions?
b) To what extent are music and speaking used in sessions?
c) What are the musical characteristics of group playing?

2. To assess the acceptability of intensive group music therapy to acute adult psychiatric inpatients.

a) To what extent do patients make use of a greater frequency of sessions?
b) What are patients' views of being offered music therapy more than once a week?

3. To explore associations between music therapy components, patient appraisals of the session, motivation, commitment to the group and patient clinical and socio-demographic characteristics.

a) What events do patients and therapists consider important in group music therapy?

b) Which components of music therapy feature in important events of patients and therapists?

c) Are there any associations between music therapy components, patient motivation, patient commitment to the group and appraisal of therapy sessions?

d) What are the patterns and predictors of attendance including predictors of patient clinical and socio-demographic variables, appraisal of the session, motivation and commitment to therapy?

CHAPTER 3

A systematic review of music therapy practice and outcomes in acute psychiatric inpatient settings.

3.1 Introduction and background

The systematic review presented in this chapter has been published in PloSONE as Carr, Odell-Miller & Priebe (2013) and is presented in full in Appendix A. The review methodology was derived from guidance for the narrative synthesis of mixed types of data and included a thematic synthesis of music therapy practice and tabulation and vote counting of outcome studies. Since publication of this review, a number of papers meeting the review criteria have been published. Given the substantial number of new papers, the review was updated and the search performed again on the 4th March 2014. The review in this chapter discusses the original findings with the additional papers incorporated.

As noted in chapter 1, a number of systematic reviews and meta-analyses exist for music therapy work with mental health, that have traditionally focused upon assessment of the effectiveness in treating symptoms (Gold, Solli, Krüger & Lie, 2009; Maratos, Gold, Wang & Crawford, 2008; Mössler, Chen, Heldal & Gold, 2011; Silverman, 2003a). Whilst this is important in gaining an overall understanding of the potential effects of music therapy for specific disorders, treatment rarely occurs with single diagnostic groups in practice and the aims of music therapy may be to address features outside of traditional diagnostic symptom clusters.

No systematic reviews of music therapy have considered to date, the evidence and reasons for its provision within acute adult psychiatric inpatient settings. Similarly, no systematic work exists in clarifying the factors specific to the acute inpatient setting that influence how music therapy is provided. Given the wide range of diagnoses, presenting problems and needs of patients, the exact purpose of aims of music therapy within acute inpatient settings should be examined as this will influence both the practice and outcomes which may be of relevance. The first aim of this review was therefore to determine what the clinical aims and considerations of music therapy were for acute adult psychiatric inpatients.

Whilst practice and institutional settings vary across countries, an examination of international practice and outcomes may provide a background of the ways in which music therapists work within acute inpatient settings and the various outcomes that have been assessed. Of particular interest to the present thesis is the frequency with which music therapy is provided, which may differ to that which is currently provided in the UK. Data on the methods used will

also provide a means of comparison when examining the methods of music therapists in the empirical study presented in chapters 6 and 7. The second aim of this review was to determine how music therapy was provided in terms of its frequency, duration and methods used.

Finally, the systematic reviews published to date demonstrate that some research has been conducted within acute inpatient settings. A review of research outcomes, both quantitative and qualitative conducted in acute inpatient settings would assist in identifying potential processes that merit further examination when linking music therapy components to patient experiences. Therefore, the final aim of this review was to examine findings from outcomes studies conducted in these settings.

3.2 Methods

3.2.1 Eligibility criteria: Definition of the intervention

Music therapy was defined based on Bruscia's (1998, p.20) definition of "a systematic intervention wherein the therapist helps the client to promote health, using music experiences and the relationships that develop through them as dynamic forces of change". The definition was chosen as it was a synthesis of international music therapy definitions and has been widely used within the clinical and research literature.

The intervention was further defined by the types of musical activities that may take place, acknowledging the diversity of international practice. Music may be actively produced by the patient and therapist (for example, improvisation on musical instruments), or receptive, such as listening to pre-recorded music. The type of musical interaction, level of structure and amount of verbal discussion may vary depending upon the music therapist's approach, client characteristics and diagnosis. Interventions can take the form of group or individual therapy and aims will vary according to the specific needs of the patient.

3.2.2 Inclusion and exclusion criteria

Criteria for inclusion were:

- Music therapy is the main component of treatment
- Adult inpatients (ages 18+) admitted for treatment of acute symptoms in psychiatric hospitals
- The intervention uses active and/or receptive musical activities as the primary treatment component in conjunction with the relationships formed through these activities to promote health

Papers were excluded if:

- The primary diagnosis was an organic mental illness (World Health Organisation International Classification of Diseases (WHO ICD10), 2010; F00-09)
- Music was not the primary focus of the intervention (eg. Dance movement psychotherapy)
- Music was provided without a focus upon relationships (eg. Music to alter the background environment, music for private listening without therapist involvement)
- The primary aim of the intervention was not to promote health (eg. Music lessons with the aim of increasing musical knowledge or skill)

As the level to which music therapy is professionalised varies across different countries, interventions delivered by non-music therapists were included if the intervention met the above criteria. If papers described both inpatient and outpatient treatment settings, these were included but features of inpatient work only were extracted. There were no restrictions on study design, publication year or language.

3.2.3 Information sources and search strategy

Given the wide arena of disciplines music therapy covers, a range of databases were identified and searched based on existing guidance and reviews (Gold et al., 2009; Gilbertson & Aldridge, 2003; Dileo, 2005). Specific music therapy and arts in health journals, library catalogues and conference proceedings were then hand-searched. The full database and journal list can be found in the supporting information in Appendix A (S2). References were then inspected for further relevant literature and a forward citation search performed using ISI Web of Science. The search was repeated after 10 months on 30th March 2012 and again on 4th March 2014 using the search terms:

[* music* or music* or * sound* or sound* or * acou or acou* or gim in title, abstract, index terms of REFERENCE] or [music* in interventions of STUDY] and [psychiatry* or mental* or schizophreni* or psychosis or psychotic].

The search term gim was included to find papers relating to Guided Imagery in Music- a specific approach used by music therapists involving receptive listening with the therapist guiding the patient through images evoked.

3.2.4 Study selection and data extraction

Detailed citations (title and abstract) were screened by the doctoral candidate (CC) and marked as include, exclude or uncertain. Full papers were retrieved and those marked as uncertain were reviewed against the inclusion criteria. Five authors were contacted for further information. All responded, and three provided references to a further five papers. Searches were managed and saved using Reference Manager (v.12, Thomson Reuters).

Details of research design and method, country, diagnosis, group/individual, frequency, length, number of sessions offered and attended, duration of therapy, music therapy approaches and techniques, theories informing rationale, client and setting specific features, reported experiences and prospective study results were entered into an excel spreadsheet which was then imported into NVivo (v.10, QSR International) software for qualitative analysis. For clinical outcome studies, sample size, mean scores and standard deviations for each time point were extracted along with statistical tests of significance. Twenty-five percent of the included papers were checked for accuracy of inclusion, coding and quality assessment by a psychologist (SO). The candidate's doctoral supervisors (SP and HO-M) were available for further discussion and resolution.

3.2.5 Assessment of risk of bias

As this review included clinical, theoretical and research papers, the EPPI-Centre "weight of the evidence" (WoE) approach was employed (EPPI-Centre, 2002; Gough, 2007). Papers were rated in terms of their methodological quality (WoEA), relevance of the study design to the review aims (WoEB) and overall relevance to the review question as a whole (WoEC). These were combined to gain an overall weighting of evidence. For research methodology (WoEA), Downs & Black's (1998) checklist was used to rate quantitative studies. For qualitative studies, the "Quality Framework" (Spencer, Ritchie, Lewis & Dillon, 2003) was used by scoring each area as either present (1) or absent (0). For practitioner based papers (such as expert opinion, clinical theoretical opinion or case studies), guidelines from the Social Care Institute for Excellence were used (Pawson, Boaz, Grayson, Long & Barnes, 2003). Scores were averaged to make an overall score (WoED) and classified as Low (0-0.35), Medium (0.36-0.69) or High (0.7-1). Any papers with a low overall (WoED) or methodological score (WoEA) are reported in the results but were excluded from all analyses. To examine publication and selective reporting bias, study protocols and outcomes reported in the method were compared with published results.

3.2.6 Synthesis

Synthesis was derived from guidance for the narrative synthesis of mixed types of data (Popay, Roberts, Sowden et al., 2006; Ring, Ritchie, Mandava & Jepson, 2011; Rodgers, Sowden, Petticrew et al., 2009) and followed three stages of:

1. Developing a preliminary synthesis
2. Exploring relationships within and between studies
3. Assessing the robustness of the synthesis

3.2.6.1 Step 1: Developing a preliminary synthesis

Preliminary synthesis for objectives 1 and 2 of the review employed tools of thematic synthesis and vote counting of themes within papers (Thomas & Harden, 2006). Papers were coded line by line for each area of extraction and then grouped thematically. A thematic framework was tabulated and organised by sub-groups of country, approaches, interventions, research design and outcomes. This was then developed into a conceptual map of 'analytical themes' to synthesize setting-specific features and approaches (Thomas & Harden, 2006). Clinical aims, modifications to practice and reasons for this were grouped into similar features. Papers included in the final update for this review were compared to the framework and any new themes were noted. For objective 3, experimental group pre- post differences and differences between groups post-intervention were converted to standardised mean differences and tabulated.

3.2.6.2 Step 2: Exploring relationships within and between studies

Relationships were explored using tabulation and vote counting. In the thematic analysis, similar features specific to acute inpatient work were grouped together, along with their impact upon therapy and approaches taken to address them. Vote counting was used to check coverage of themes and these were stratified by year of publication, country and length of stay to explore any potential patterns or influences. Experimental results were tabulated and grouped by outcome. Vote counting was used to rank outcomes according to the size and direction of standardised mean differences and statistical significance. Outcomes were then compared by intervention, number of sessions received and study quality.

3.2.6.3 Step 3: Assessing robustness of the synthesis product

Robustness was assessed through quality assessment, doctoral supervision and presentations to a mental health research group consisting of psychologists and psychiatrists within the

doctoral candidate's institution and to music therapists at the European Music Therapy Conference, Jyväskylä, Finland (Carr & Odell-Miller, 2012).

3.3 Results

The review identified 113 papers, of which 65 covered acute work specifically, whilst 48 included acute work as part of a wider discussion of practice in mental health. The majority of papers came from the USA (N=38) and UK (N=17) and were clinical theoretical discussions or case studies (N=70). Research and service evaluations comprised 43 of the included papers. Two papers were rated as low quality and therefore excluded from the main thematic analysis. The PRISMA diagram is shown in figure 1 and paper characteristics can be found in Appendix A (table S4).

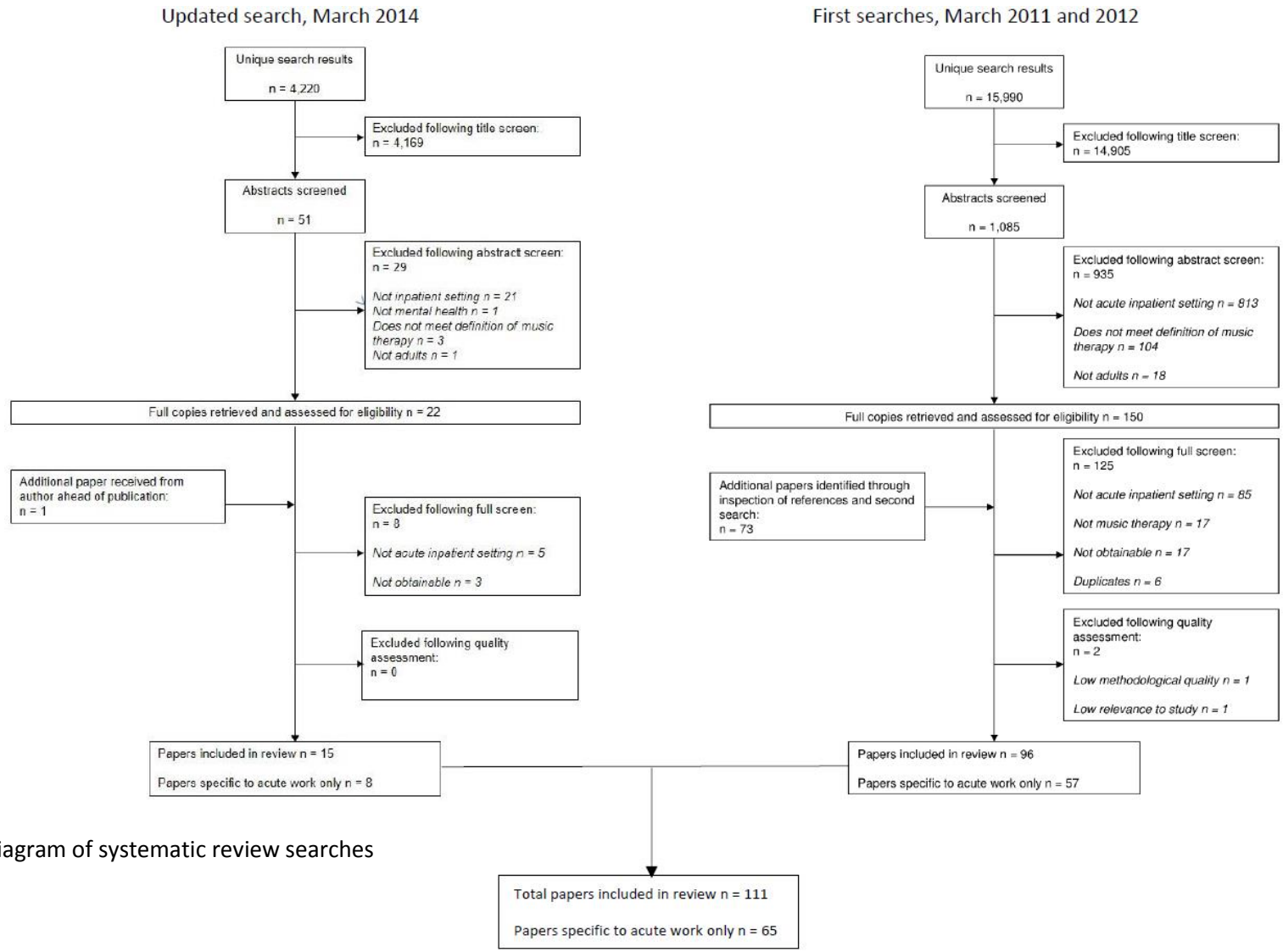


Figure 3.1 PRISMA diagram of systematic review searches

3.3.1 Thematic synthesis

The systematic review looked at three core areas of clinical aims, the setting and the patient group.

3.3.1.1 Clinical aims

Clinical aims are presented in Appendix A (table S5) and were conceptualised into eight areas of:

1. Engagement in therapy
2. Building interpersonal relationships
3. Self- expression and communication
4. Emotional expression and regulation
5. Cognitive
6. Symptom specific
7. Building personal resources
8. Addressing issues in hospital

Immediate and short term aims were most prominent, with priority given to establishing the therapeutic engagement of patients through making contact, building a therapeutic relationship (N=49) and fostering motivation (N=28). Immediate aims focused upon the reduction of anxiety, management of emotional arousal, building internal and external organisation and providing reality orientation. Once engagement was established, goals then focused upon short term features to address the patient's immediate situation within hospital. These included work on coping skills (N=24), building musical resources (N=42), prevention of relapse and exploration of issues that led to hospitalisation (N=13). Interpersonal processes focused upon making nonverbal contact with others, building awareness of how one interacts with others, building and improving relationships, teamwork and socialisation. Communication (N=53) focused upon nonverbal expression, self-expression and verbal communication with others. Emotional aims (N=53) focused upon the management of arousal, self-expression and building awareness and naming of affective states whilst cognitive aims (N=39) focused upon sustaining and increasing attention and organising patients' physical actions, behaviours and thoughts. Papers from the USA, UK and Denmark noted setting specific aims of helping patients to deal with hospitalisation, such as decreasing hospital and discharge anxiety, and changing the atmosphere on the ward (N=24), such as improving patient staff integration (N=17).

Papers varied in opinion regarding the extent to which music therapy should aim to address specific symptoms and problems directly (N=22). Whilst some argued this was not a goal of music therapy, others suggested that the short time frame for work would make complete elimination unrealistic and therefore proposed building of patient strengths and resources to help them cope with their current situation. Papers informed by Yalom's model of inpatient psychotherapy (Yalom, 1983) proposed aims oriented towards supporting and reinforcing strengths and skills rather than longer term insight, and proposed a focus of work in the 'here and now'.

Clinical aims presented in the 15 new papers in the final updated search tended to focus more upon engagement of patients (N=15), building resources (N=12) and working interpersonally (N=12) whilst symptom specific and cognitive aims (both N=6) were mentioned less frequently.

3.3.1.2 Characteristics of delivery

A comparison of characteristics of delivery is shown in table 3.1 and content and structure of sessions in table 3.2.

		Total
Number of papers (N)	All	113
	Acute only	65
Mixed Diagnoses (N)		83
N Sessions attended (range)		1-133
Link to outpatient work (N)		25
Duration in-patient stay (range, weeks)		0.6-75
Duration of therapy (range, weeks)	All	0.2-129
	Acute only	0.2-38
Location (N)	On ward	29
	Off ward	11
	Both	9
Type of therapy (N)	Individual	21
	Group	51
	Both individual and group	33
Individual work	Frequency per week	0.5-6
	Length of session (minutes)	10-60
Group work	Frequency per week	0.5-6
	Length of session (minutes)	30-90
	Group size (range)	3-40
	Co-work with another member of staff	16
Group Format (N)	Open	31
	Semi-open	10
	Semi-closed	3
	Closed	6
	Both open and closed	7

Table 3.1 Delivery of music therapy across included papers

Music therapy was offered to patients with a range of diagnoses. Thirty papers focused upon specific diagnoses, usually schizophrenia or psychosis, 14 of which were individual case studies and 16 were for research or service evaluation. The duration of inpatient stay ranged from 3 days to 75 weeks. Duration of therapy upon acute wards ranged from a single session to 38 weeks. The mode frequency of therapy was twice a week and ranged from fortnightly to 6 sessions per week. Therapists working in hospitals with a short length of stay tended to offer a greater frequency of sessions, particularly in the USA. Open ward groups were the predominant form of delivery. Smaller semi-open or closed groups were run to meet specific

needs or levels of functioning. Group and individual work was also combined (N=31), whilst other reports focused on individual work only (N=20) or included outpatient work (N=24). Papers published in the last 12 months all had a reduced number of sessions (range, 1-55), duration of inpatient stay (range, 0.6-45 weeks) and therapy (0.2-9 weeks) compared to earlier papers.

Features impacting upon the delivery of music therapy can be found in Appendix A (tables S5 and S6) and were characterised as:

Setting:

1. The hospital environment
2. The institutional structure
3. The multidisciplinary team
4. High patient turnover
5. Short time frame of work

Patient:

1. Symptom severity
2. Differing functioning levels
3. Reaction to hospitalisation
4. Previous experiences of therapy
5. Engagement of patients in therapy

The integration of music therapy within the models and systems of the institutional setting meant prioritisation of multidisciplinary team communication, provision of clear information to both patients and staff and provision of a programme to maximise patient access and staff support (Bunt, Pike & Wren, 1987; Davies & Richards, 1998; Moss, 1999; Rowland & Reed, 2011; Sloboda, 2008). Solli (2008) suggests therapists tailor their work at different individual, group, ward and hospital levels. Work may also extend to links with the community through sessions accessible to outpatients (eg. Rolvsjord, 2010; Fenwick, 1973; Priestley, 1975) or direction of patients to community resources (eg. Rolvsjord, 2010; Fenwick, 1973; Jensen, 2002; Solli, 2008; 2009), although barriers such as continuity of service and ability to follow up patients were identified (Davies & Richards, 1998; Talwar et al., 2006).

			N Papers
Direction	**Therapist**	Directive	50
		Non-directive	59
	Session	Therapist led	44
		Patient Led	59
Structure	Opening and closing events		34
	High structure		34
	Flexible structure		46
	Low structure		13
Active techniques	**Improvisation**	Free	58
		Structured	32
		Thematic	20
		Playback of recording	13
	Composing	Music composition	2
		Songwriting	31
	Playing pre-composed	Ensemble playing	26
		Singing	42
		Rhythmic playing	10
	Didactic/tuition		15
Receptive	**Listening**	Live reception	8
		For relaxation	13
		Music selection & discussion	20
		Structured affective listening	16
		Reminiscence	1
		Guided Imagery in Music	10
	Music based activity	Lyric Analysis	12
		Music collage	3
		Music games	11
Use of other arts		Movement	14
		Other arts forms	18
Use of verbal reflection in session			74

Table 3.2 Session structure and content across papers

Attendance and engagement were key challenges due to symptom severity, high patient turnover and short lengths of stay. Low attendance was generally experienced negatively by patients (Gibson, Novakovic & Francis, 2008; Rowland & Reed, 2011) and impacted upon the group dynamic (Thomas, 2007). Access to sessions was limited by mental state, external events or by institutional barriers such as the time taken for referral and assessment and ongoing demands upon the patient whilst in hospital (Bunt et al., 1987; Goldberg, 1994). Talwar et al. (2006) also observed that uptake of outpatient attendance was rare unless several inpatient sessions were attended. Engagement of patients in therapy itself was noted as a difficult process either due to anxiety in use of the medium (Arnason, 1993; Cullen, 1993; Hara, 1999; Hudson-Smith, 1991; Leite, 2008; Mössler et al., 2011; Odell-Miller, 1986; Pavlicevic, 1987;

Reker, 1991; Shultis, 1999; Stige, 2011), lack of motivation (Cullen, 1993; Hannibal, 2002; 2005; Lindvang & Frederiksen, 2008; Moura Costa & Negreiros, 2011; Procter, 2002) or damage in previous relationships (Murphy, 1992). Attendance for the duration of the session could also be challenging (Arnason, 1993; Hara, 1999; Hudson-Smith, 1991). Coercion to attend was seen by some to have a negative impact, resulting in disruption, focus on authority, or resistance to participating and being involved in the group (Abs, 1983; Clemincic-Jones, 1998; Hara, 1999). Arnason (1993) also suggested that some may not feel that they need therapy or may hold ambivalence towards attending as they fear missing visitors, clinical appointments or wish to return home. Patients may attend in order to 'play the system' to obtain early discharge (Procter, 2002) and it may be that the idea of making music itself may be more motivating for patients than that of psychological change (Mössler et al., 2011). Cullen (1993) noted resistance may take many forms including resistance to choice, personal expression, focus on the here and now, criticism, breaking the mood of the group and intellectualisation.

The papers described the therapist as highly active in identifying, informing and establishing relationships with patients both prior to, during and between sessions. Interest and willingness to work with music, level of risk and ability to function in a group were common indication criteria. Acute psychosis was seen as a contraindication by some therapists, although this was less prevalent in later papers, whilst others utilised individual sessions or specific targeted groups to engage and work with this patient group. Consistency in therapeutic boundaries of environment, time, place, session structure and behaviour were seen to be of importance but could be difficult to ensure due to the availability of space and fluctuating atmosphere on the ward. When patients were unable to access the group (for example due to ward confinement), therapists would visit the patient, hold sessions on the ward, or provide taped music (either of the group session (Hudson-Smith, 1991); or for relaxation to maintain consistency of contact (Arnason, 1993)). Due to rapid discharge, some offered outpatient work, or home visits where this was not possible (eg. Murphy, 1991). Therapists also noted the importance of preparing the groups for change or breaks.

Music therapists described greater participation and direction of the sessions. The level at which patients could influence the group process was determined by the therapist approach and level of functioning of patients. Overall, papers described an approach led by patients, but structured by the therapist at the beginning and end of sessions. Opening events were used to orientate new members and closing events used for reflection. Due to the high turnover of patients, 16 papers viewed sessions as standalone sessions (Arnason, 1993; Davies & Richards, 1998; Halligan, 2013; Hara, 1999; Leite, 2008; Murphy, 1992; Shultis, 1999; Silverman &

Marcionetti, 2004; Silverman, 2009a; 2009b; 2010; 2011a; 2011b; Solli, 2003; 2006; Thomas, 2007), often influenced by the work of Yalom (1983). A range of music interventions was used. Most emphasised active musical participation, predominantly through structured improvisation and singing/playing precomposed music. Receptive methods were used either in groups where active music making was deemed too challenging, or for higher functioning patients using a modified form of the Bonny Method of Guided Imagery in Music (Blake & Bishop, 1994; Goldberg, 1994; Moe, 2002; Moe, Roesen & Raben, 2000). Across all forms of music making, musical components of importance were described as having a clear structure, predictability and tonal and harmonic simplicity. Musical boundaries and ground rules were employed to address behaviour within groups. Verbal reflection was described in all papers and was used to clarify and encourage communication. Discussions focused upon concrete events within the here and now with minimal interpretation.

More recently published papers tended to describe a non-directive approach, with the exception of approaches in papers from the USA, where therapists provided a more directive and highly structured approach to sessions, using opening and closing events and written protocols of what the group would cover. It should be noted that all of the papers from the USA were research studies, so it may be that this was a result of ensuring a complete description and adherence to an intervention. However, in contrast, two studies investigating resource-oriented music therapy and one developing a framework for personality disorder utilised a protocol but ensured this was flexible to remain patient led. Sessions tended to make use of active techniques with song-writing and singing featuring much more strongly.

The concept of and focus upon recovery was much stronger in more recently published papers. Aligned with this was the use of resource-oriented music therapy (Gold et al., 2013; Mössler et al., 2012; Solli, 2012; Solli & Rolvjsord, 2014) which is strongly patient-led, collaborative and utilises a range of musical activities guided by patient preference. Solli (2012) notes a need for stronger links between inpatient music therapy and the community and utilised recording, CD production and performance in music therapy sessions. Hannibal et al., (2013) built upon the concept of resource orientation but argued for a focus upon the process of the music therapy, and incorporated aspects of psychodynamic practice. Papers by Hannibal et al. (2013), Metzner (2013) and Strehlow (2013) note how their institutions have adopted mentalisation (Bateman & Fonagy, 2006) as a model of work, and describe how they have incorporated this into their practice. Finally, within papers from the USA, the focus was upon incorporating psychoeduational goals with a range of musical activities in a single session format.

3.3.2 Outcome studies

Forty-five research papers were identified. Study characteristics are shown in Appendix A (table S7). The majority of these were quantitative studies evaluating patient outcomes (N=18). Of these, 11 used a randomised controlled trial design (Cassity, 1976; Gold et al., 2013; Morgan, Bartrop, Telfer & Tennant, 2011; Odell-Miller, Hughes & Westacott, 2006; Silverman, 2009b; 2011a; 2011b; 2013a; 2013b; Talwar et al., 2006; Ulrich, Houtmans & Gold, 2007), although only 2 utilised a reliable randomisation method (Talwar et al., 2006; Gold et al., 2013). Four more recent studies employed cluster randomisation by randomly allocating when a particular intervention would be offered at the same site (Silverman 2013a; 2013b; Silverman & Leonard, 2012; Tague, 2012). Various outcomes were assessed which were mostly social/interpersonal, mood and symptom domains. One studied associations between music therapy processes and outcome (Mössler et al., 2012).

3.3.2.1 Risk of bias within studies

The evaluation of risk of bias within studies is presented in Appendix A (Table S8). Nine studies were evaluated as medium quality (37%-62.9%) (Cassity, 1976; Moe, Roesen & Raben, 2000; Odell Miller et al., 2006; Silverman & Marcionetti, 2004; Silverman, 2011a; 2011b; Riley, 2013; Tague, 2012; Silverman & Leonard, 2012), whilst 9 were evaluated high (>70%) (Gold et al., 2013; Morgan et al., 2011; Mössler et al., 2012; Silverman, 2009b; 2013a; 2013b; Silverman & Rosenow, 2013; Talwar et al., 2006; Ulrich et al., 2007). Studies were strong in reporting but had significant shortcomings in four areas: Information regarding adverse events was reported in two studies (Gold et al., 2013; Moe et al., 2000); nine did not outline explicit exclusion criteria (Cassity, 1976; Odell-Miller et al., 2006; Riley, 2013; Silverman, 2009b; 2011a; 2011b; Silverman & Leonard, 2012; Silverman & Marcionetti, 2004; Tague, 2012); principle confounders were not described in 4 studies (Cassity, 1976; Odell-Miller et al., 2006; Silverman, 2011b; Silverman & Marcionetti, 2004) and 3 did not report characteristics of patients lost to follow up (Cassity, 1976; Silverman, 2011b; Silverman & Marcionetti, 2004) . External validity was weak in earlier published papers, but stronger in those published in the last 12 months. However, 11 studies did not provide adequate information regarding the source population. Internal validity was limited by a lack of blinding of subjects, outcome assessors and concealment of randomisation with only 1 study adequately addressing these (Morgan et al., 2011).

3.3.2.2 Risk of bias across studies

No study protocols were identified with unpublished study data. Two study protocols were available to examine selective reporting bias (Odell-Miller, 2001b; Gold, Rolvsjord, Aaro et al., 2005), of which all outcomes were reported in the final publication. One study reported outcomes not explicitly outlined in the method (Silverman, 2011b) whilst Cassity (1976) did not provide tabulated data for measures of peer acceptance and interpersonal relationships.

3.3.3 Clinical outcomes

Comparisons of clinical outcomes are shown in table 3.3. Direction and size of pre-post change in the intervention group, post intervention differences between groups and statistical significance were examined to compare the strength of evidence between studies.

Reductions in positive and negative symptoms including affect regulation and motivation (Gold et al., 2013; Morgan et al., 2011; Talwar et al., 2006; Ulrich et al., 2007), and psychiatric symptoms, including dissociation and mania (Morgan et al., 2011) and increased global functioning (Moe et al., 2000; Gold et al., 2013) were significantly more favourable in patients receiving music therapy compared to controls. The size of the effects were small apart from negative symptoms where Ulrich et al (2007) and Gold et al., (2013) reported medium effects, and global functioning where Gold et al., (2013) reported a medium effect. Therapy was provided on an individual basis with only two studies (Moe et al., 2000; Ulrich et al., 2007) utilising a group format. All used primarily active methods of music-making and were delivered between 4-17.5 sessions over 2 weeks to 3 months. These studies were generally of a higher methodological quality than most of the studies in the review but were limited by lack of blinding of participants and only one used an active control (Morgan et al., 2011). One study (Gold et al., 2013) successfully blinded interviewers and had a larger sample size (N=144) although around 30% of this sample (N=42) were recruited as outpatients.

A study by Silverman (2013a) assessed the impact of a psychoeducational music therapy group upon perceived stigma. Impact after a single session of psychoeducational discussion and songwriting was compared to a psychoeducational discussion group. The music therapy group demonstrated significant improvements in disclosure, perceived discrimination and overall perceived stigma compared to the control. Ability to identify positive aspects surrounding stigma were also greater in the music therapy group but was not significant compared to the control. Further psychoeducational interventions designed to promote coping skills with songwriting (Silverman 2011a;2011b) and psychoeducational knowledge with lyric analysis

(Silverman 2009a) demonstrated positive improvements and were appraised positively by patients in terms of enjoyment and helpfulness but were not significant compared to the control. These studies focused primarily upon effects after a single session and were compared to active discussion group controls.

Three studies reported improvements in social and interpersonal outcomes that were significantly more favourable in patient receiving music therapy compared to controls, however, patient and observer rated outcomes were mixed. Ulrich et al. (2007) reported improvements in patient reported interpersonal contact. Nurse ratings also suggested a trend but this was not significant when compared to the standard care control. In contrast, Gold et al. (2013) reported a significant improvement in observer rated social relationships on the Scale for the Assessment of Negative Symptoms (SANS) subscale, but patient reported improvements on the quality of life (Q-LES-Q) scale, were not significant when compared to the treatment as usual control. Silverman (2011b) reported significant improvements in therapist working alliance on the Helping Alliance Questionnaire (HAQ-II) after a psychoeducational songwriting group for coping skills and whilst this was also reflected on the patient completed version, this was not significant when compared to a non-music psychoeducational group control. Morgan et al. (2011), found nurses rated an improvement in interaction for patients on the Nurses' Observation Schedule for Inpatient Evaluation (NOSIE) but these improvements were smaller when compared to an active music listening control. Trends favouring music therapy, but not reaching significance when compared to the control included nurse rated interpersonal contact (Ulrich et al., 2007), social functioning (Silverman, 2009a) and relational competencies (Gold et al., 2013). It appears that music therapy generally has a positive impact upon social and interpersonal outcomes but it is difficult to find conclusive evidence given the range of interventions and study controls.

Table 3.3 Outcome Comparison Outcome	Study	Measure	Session content		N sess	SMD Pr-Po	SMD E vs C	Count E	G	S	Bias risk
Social and interpersonal											
Interpersonal contact- patient	**Ulrich et al., 2007**	**GT Pt**	**Active**	**Improvisation, pre-composed**	**7.5**	**0.41**	**0.64***	**+**	**+**	**+**	**L**
Interpersonal contact- nurse	Ulrich et al., 2007	GT Nurse	Active	Improvisation, pre-composed	7.5	0.18	0.25	+	+		L
Social Functioning	Silverman, 2009a	RD Scale	Receptive	Lyric analysis	1	na	0.09	+	+		L
Interaction	Morgan et al., 2011	NOSIE	Active	Improvisation, songwriting	4	0.5	-2.30	+	-		L
Working alliance- therapist	**Silverman, 2011b**	**HAQ-II Th**	**Active**	**Songwriting**	**1**	**na**	**1.09***	**+**	**+**	**+**	**M**
Working alliance- patient	Silverman, 2011b	HAQ-II Pt	Active	Songwriting	1	na	0.31	+	+		M
Relational competencies	Gold et al., 2013	IIP-32	Mixed	Mixed imp,precom,didactic,recept	17.5	nr	0.04		+		L
Social relationships- patient	Gold et al., 2013	Q-LES-Q	Mixed	Mixed imp,precom,didactic,recept	17.5	nr	0.37		+		L
Social relationships- observer	**Gold et al., 2013**	**SANS**	**Mixed**	**Mixed imp,precom,didactic,recept**	**17.5**	**nr**	**0.54***		**+**	**+**	**L**
Social approval during group	Tague, 2012	Video	Active	Structured drumming	1	na	**na**		+		M
Social neutral group behaviours	Tague, 2012	Video	Active	Structured drumming	1	na	**na**		-		M
Social disapproval during group	Tague, 2012	Video	Active	Structured drumming	1	na	**na**		+		M
Social (dichotomous)											
Group cohesion	Cassity, 1976	SQ	Active	Didactic	10	1.12	0.98	+	+		M
Peer Acceptance	Cassity, 1976	SQ	Active	Didactic	10	0.76	0.61	+	+		M
Interpersonal relations	Cassity, 1976	SQ	Active	Didactic	10	nr	nr				M
Global functioning	Talwar et al., 2006	GAF	Active	Improvisation, verbal reflection	12	0.43	0.13	+	+		L
	Moe et al., 2000	**GAF**	**Receptive**	**Modified GIM**	**28**	**1.22***	**na**	**+**		**+**	**M**
	Gold et al., 2013	**GAF**	**Active**	**Mixed imp,precom,didactic,recept**	**17.5**	**nr**	**0.64***		**+**	**+**	**L**
Quality of life	Ulrich et al., 2007	SPG	Active	Improvisation, pre-composed	7.5	0.24	0.05	+	+		L
	Silverman, 2013a	Q-LES-Q	Active	Psychoeducation, songwriting	1	nr	0.25		+		L
Global distress	Odell-Miller et al., 2006	CORE	Active	Improvisation	nr	0.09	0.02	-	-		M
General psychiatric symptoms	**Morgan et al., 2011**	**BPRS**	**Active**	**Improvisation, songwriting**	**4**	**-1.07**	**-0.16***	**+**	**+**	**+**	**L**
	Talwar et al., 2006	PANSS	Active	Improvisation, verbal reflection	12	-0.71	-0.32	+	+		L
	Gold et al., 2013	BSI-18	Mixed	Mixed imp,precom,didactic,recept	17.5	nr	-0.16		+		L
	Gold et al., 2013	CGI-S	Mixed	Mixed imp,precom,didactic,recept	17.5	nr	-0.91*		+	+	L
Negative symptoms	**Morgan et al., 2011**	**BPRS**	**Active**	**Improvisation, songwriting**	**4**	**-1.43**	**-0.03***	**+**	**+**	**+**	**L**
	Ulrich et al., 2007	**SANS**	**Active**	**Improvisation, pre-composed**	**7.5**	**-0.53**	**-0.42***	**+**	**+**	**+**	**L**

Table 3.3 Outcome Comparison Outcome	Study	Measure	Session content		N sess	SMD Pr-Po	SMD E vs C	Count E	G	S	Bias risk
	Talwar et al., 2006	PANSS	Active	Improvisation, verbal reflection	12	-0.56	-0.30	+	+		L
	Gold et al., 2013	**SANS**	**Mixed**	**Mixed imp,precom,didactic,recept**	**17.5**	**nr**	**-0.54***		**+**	**+**	**L**
Positive symptoms	**Morgan et al., 2011**	**BPRS**	**Active**	**Improvisation, songwriting**	**4**	**-1.08**	**-0.24***	**+**	**+**	**+**	**L**
	Morgan et al., 2011	NOSIE	Active	Improvisation, songwriting	4	-0.67	-0.10	+	+		L
	Talwar et al., 2006	PANSS	Active	Improvisation, verbal reflection	12	-0.67	-0.28	+	+		L
Positive & negative symptoms	**Talwar et al., 2006**	**PANSS**	**Active**	**Improvisation, verbal reflection**	**12**	**-0.66**	**-0.26***	**+**	**+**	**+**	**L**
Mood	Tague, 2012	VAMS	Active	Structured drumming	1	0.33	0.05	+	-		M
Alertness	**Silverman & Rosenow, 2013**	**QMS**	**Active**	**Recreational music activities**	**1**	**0.17***	**nr**	**+**		**+**	**L**
Anxiety	**Silverman & Rosenow, 2013**	**QMS**	**Active**	**Recreational music activities**	**1**	**0.49***	**nr**	**+**		**+**	**L**
Depression	**Silverman & Rosenow, 2013**	**QMS**	**Active**	**Recreational music activities**	**1**	**0.32***	**nr**	**+**		**+**	**L**
Aggression	**Silverman & Rosenow, 2013**	**QMS**	**Active**	**Recreational music activities**	**1**	**0.45***	**nr**	**+**		**+**	**L**
Confusion	Silverman & Rosenow, 2013	QMS	Active	Recreational music activities	1	0.00	nr				L
Coordination	Silverman & Rosenow, 2013	QMS	Active	Recreational music activities	1	0.17	nr	+			L
Depression	**Morgan et al., 2011**	**BPRS**	**Active**	**Improvisation, songwriting**	**4**	**-1.06**	**-0.05***	**+**	**+**	**+**	**L**
	Morgan et al., 2011	Calgary	Active	Improvisation, songwriting	4	-0.63	-0.04	+	+		L
	Morgan et al., 2011	DASS-21	Active	Improvisation, songwriting	4	-0.51	0.02	+	-		L
	Silverman, 2013a	BDI-II	Active	Psychoeducation, songwriting	1	na	-0.18		+		L
Anxiety and depression	Odell-Miller et al., 2006	HADS	Active	Improvisation	nr	-0.12	0.15	+	-		M
Dissociation	**Morgan et al., 2011**	**BPRS**	**Active**	**Improvisation, songwriting**	**4**	**-0.73**	**-0.12***	**+**	**+**	**+**	**L**
Mania	**Morgan et al., 2011**	**BPRS**	**Active**	**Improvisation, songwriting**	**4**	**-1.2**	**-0.13***	**+**	**+**	**+**	**L**
Anxiety	Morgan et al., 2011	DASS-21	Active	Improvisation, songwriting	4	-0.83	-0.10	+	+		L
Stress	Morgan et al., 2011	DASS-21	Active	Improvisation, songwriting	4	-0.71	-0.22	+	+		L
Irritability	Morgan et al., 2011	NOSIE	Active	Improvisation, songwriting	4	-0.5	0.13	+	-		L
Affect regulation	**Gold et al., 2013**	**SANS**	**Mixed**	**Mixed imp,precom,didactic,recept**	**17.5**	**nr**	**-0.35***		**+**	**+**	**L**
Engagement											
Activity & engagement in music	Gold et al., 2013	IIM	Mixed	Mixed imp,precom,didactic,recept	17.5	nr	-0.17		-		L
Social avoidance through music	**Gold et al., 2013**	**IIM**	**Mixed**	**Mixed imp,precom,didactic,recept**	**17.5**	**nr**	**-0.53***		**+**	**+**	**L**
On task behaviour during group	Tague, 2012	Video	Active	Structured drumming	1	nr			-		M

Table 3.3 Outcome Comparison Outcome	Study	Measure	Session content		N sess	SMD Pr-Po	SMD E vs C	Count E	G	S	Bias risk
Motivation											
Motivation	**Gold et al., 2013**	**SANS**	**Mixed**	**Mixed imp,precom,didactic,recept**	**17.5**	**nr**	**-0.54***		**+**	**+**	**L**
Motivation for change	Gold et al., 2013	URICA	Mixed	Mixed imp,precom,didactic,recept	17.5	nr	-0.37		-		L
Self-efficacy	Gold et al., 2013	GSE	Mixed	Mixed imp,precom,didactic,recept	17.5	nr	0.23		+		L
Self-esteem	Gold et al., 2013	RSE	Mixed	Mixed imp,precom,didactic,recept	17.5	nr	0.08		+		L
Vitality	**Gold et al., 2013**	**SF-36**	**Mixed**	**Mixed imp,precom,didactic,recept**	**17.5**	**nr**	**0.67***		**+**	**+**	**L**
Ward behaviour	Morgan et al., 2011	NOSIE	Active	Improvisation, songwriting	4	0.46	-0.08	+	+		L
	Tague, 2012	Hosp. obs.	Active	Structured drumming	1	na	0.08		+		M
	Riley, 2013	Hosp. obs.	Active	Behaviours discussion, songwriting	1	nr	0.03		+		M
Life skills	Odell-Miller et al., 2006	LSP	Active	Improvisation	nr	-0.3	-0.63	-	-		M
Psychoeducational knowledge	Silverman, 2009a	KIRI	Receptive	Lyric analysis	1	na	0.08		+		L
Stigma											
Disclosure	**Silverman, 2013a**	**Stigma**	**Active**	**Educational dialogue, songwriting**	**1**	**na**	**-0.60***		**+**	**+**	**L**
Discrimination	**Silverman, 2013a**	**Stigma**	**Active**	**Educational dialogue, songwriting**	**1**	**na**	**-0.56***		**+**	**+**	**L**
Positive aspects	Silverman, 2013a	Stigma	Active	Educational dialogue, songwriting	1	na	-0.12		+		L
Total stigma	**Silverman, 2013a**	**Stigma**	**Active**	**Educational dialogue, songwriting**	**1**	**na**	**-0.66***		**+**	**+**	**L**
Coping skills	Silverman, 2011a Study 1	PCI	Mixed	Songwriting, lyric analysis, games	3	na	1.52		+		M
	Silverman, 2011a Study 2	PCI	Mixed	Songwriting, lyric analysis, games	1	na	0.12		+		M
	Silverman, 2011b	COPE	Active	Songwriting	1	na	0.03		+		M
Group appraisal or satisfaction											
Satisfaction with services	Talwar et al., 2006	CSQ	Active	Improvisation, verbal reflection	12	0.34	0.33	+	+		L
Enjoyment	Silverman, 2013b	RD Scale	Active	Psychoeducation, songwriting	1	nr	0.41		+		L
Enjoyment	Silverman, 2011b	RD Scale	Active	Songwriting	1	na	0.09		+		M
Enjoyment	Silverman, 2009a	RD Scale	Receptive	Lyric analysis	1	na	0.15		+		L
Helpfulness	Silverman, 2009a	RD Scale	Receptive	Lyric analysis	1	na	0.09		+		L
Helpfulness	Silverman, 2013b	RD Scale	Active	Psychoeducation, songwriting	1	nr	0.34		+		L
Satisfaction with life	Silverman, 2009a	SWLS	Receptive	Lyric analysis	1	na	0.24		+		L
Comfort	Silverman, 2013b	RD Scale	Active	Psychoeducation, songwriting	1	nr	-0.09		-		L
Comfort	Silverman, 2009a	RD Scale	Receptive	Lyric analysis	1	na	-0.08		-		L

Vote count coding key:

Experimental group pre-post SMD E	SMD Group difference post intervention G	Outcome is statistically significant S	Interpretation
+	+	+	Significantly favours intervention
+	+		Trend towards intervention
+	-		Improvement in experimental group, trend towards control
-	-		Deterioration in experimental group, trend towards control
-	-	-	Significantly favours control

+ Direction of experimental pre-post SMD indicates improvement / group difference SMD favours intervention / significantly favours intervention
- Direction of experimental pre-post SMD indicates deterioration / group difference SMD favours control / significantly favours control
* Statistically significant (p<.05)

N sess- Number of sessions received, SMD- Standardised mean difference, Count- Vote count, nr- not reported, na- not applicable

BPRS- Brief Psychiatric Rating Scale, Calgary- Calgary Interview Guide for Depression, COPE- Brief COPE Inventory, CORE- Clinical Outcomes in Routine Evaluation, CSQ- Client Satisfaction Questionnaire, DASS-21- Depression, Anxiety and Stress Scale, GAF- Global Assessment of Functioning Scale, HADS- Hospital Anxiety and Depression Scale, HAQ-II- Helping Alliance Questionnaire, KIRI- Knowledge of Illness and Resources Inventory, LSP- Life Skills Profile, NOSIE- Nurses' Observation Scale for Inpatient Evaluation, PANSS- Positive and Negative Symptoms Scale, PCI- Proactive Coping Inventory, RD- Researcher designed, SANS- Scale for the Assessment of Negative Symptoms, SMD- Standardised mean difference, SPG- Scales for Mental Health, SQ- Social Questionnaire, SWLS- Satisfaction with Life Scale

Table 3.3 Comparison of outcomes (standardised mean difference) across studies and vote count

Outcomes on depression were similarly mixed. Morgan et al., (2011) found treatment group Brief Psychiatric Rating Scale (BPRS) scores significantly decreased compared to the control. However, reduction was not significant compared to the control when assessed on the Calgary Interview Guide for Depression whereas scores on the Depression and Anxiety Stress Scale (DASS-21) suggested a trend towards the control. Odell-Miller et al.'s study (2005) on the effectiveness of arts therapies (music, dance movement and art therapy) compared 10 patients receiving an arts therapy intervention, to 15 patients receiving treatment as usual at three time points. Patients in the treatment group reduced in anxiety and depression but this was not significant and the group difference favoured the control. Individual global distress reduced in both treatment and control but increased in the final assessment for the treatment group. Life skills increased for the control, but decreased in the treatment group. Despite its rigorous design, the authors noted the problems inherent in assessing a range of interventions, diagnoses and small number of participants.

Patient reported outcomes on mood contrast with assessment of depressive symptoms. Morgan et al., (2011) reported positive changes in patient anxiety and stress assessed by the DASS-21 but this was not significant compared to the control. Silverman and Rosenow (2013) assessed the immediate effect of 10 different types of recreational music therapy upon patient mood using the quick mood scale. Whilst provided by a music therapist, the content of these sessions was more akin to activity in nature, with music games, jamming sessions, and combinations of music and art making. The authors found no significant differences between the types of intervention offered, however when mood scores were examined as a whole, they found significant changes from pre- to post session in alertness, anxiety, depression and aggression. A positive change was seen in coordination although this did not reach significance and no change was seen in confusion.

Other positive outcomes suggesting a trend towards the intervention but not significant when compared to controls included quality of life (Silverman, 2013a; Ulrich et al., 2007), self-efficacy, self-esteem (Gold et al., 2013) and ward behaviour (Morgan et al., 2011; Riley, 2013; Tague, 2012).

An outcome of particular relevance for acute inpatient work is engagement in and motivation for therapy. Gold et al.'s study (2013) focused upon patients with low therapy motivation. Motivation, as rated on the SANS improved significantly more in music therapy clients compared to the control. However, motivation for change was lower in music therapy participants than controls at the end of the intervention, although this was not statistically significant. The study found that music therapy participants significantly reduced their use of

music for social avoidance but interest in music was less at the end of the study when compared to controls.

Silverman & Leonard (2012) looked at attendance of music therapy in two related studies that compared highly structured active music therapy with passive music selection and listening. Whilst the study was observational, they found that 16% more patients attended active music therapy compared to a passive music listening group and patients had slightly higher perceptions of enjoyment and comfort in the active groups. As acute inpatients often experience difficulties in staying for the duration of a session, the second study assessed the duration of time patients spent in sessions. Participants stayed for 30% longer in the active music therapy sessions than passive sessions and rated active sessions as more helpful and having learned more about managing their illness.

Tague (2013) examined patient behaviour during a music therapy drumming group consisting of structured activities using only drums. He compared this to a general music therapy group where only the therapist had a guitar and musical activities were directed by the therapist, and an activity therapy group where no music took place. No significant differences were found between groups, although the drumming group had more occurrences of social approval between participants and this was greater in both the drumming and general music therapy groups compared to the general activity group. The general music therapy group had the greatest amount of on task behaviour and the activity group the least. The general activity group had the greatest number occurrences of verbal neutral expression which consisted of information or statements of fact between individuals. In a much earlier study, Cassity (1976) utilised 10 sessions of guitar tuition and found group cohesion and peer acceptance improved to a greater extent compared to the treatment as usual control, although this was not significant and the sample size (N=12) was particularly small.

A final study of music therapy processes (Mössler et al., 2012) was conducted as a part of the randomised controlled trial of individual resource-oriented music therapy for low therapy motivation (Gold et al., 2013). The study sought to identify music therapy techniques predictive of change in outcomes of self-esteem, interest in music, interpersonal problems and social relationships. Therapist session notes from three sessions were analysed for each of the 31 participants and categorised according to activity type. The authors found that reproduction techniques, such as singing or playing precomposed songs and learning or practising musical skills were used most frequently, followed by active production techniques of various types of musical improvisation. Within reception techniques, listening to recorded music and live music played by the therapist was most frequent. The frequency and intensity

of use was similar for both psychotic and non-psychotic disorders. The authors noted a range of significant effects of confounding variables of age, diagnosis and therapist.

Only one significant effect was found: Reception techniques appeared to have a negative impact upon interpersonal problems. The authors also noted techniques with a significance of $p<.05$ but greater than the strict Bonferroni criterion of $p<.006$ which they had employed. Reproduction techniques appeared to be associated with improvement in interpersonal problems and social relationships whilst reception and production techniques appeared to have a negative association with social relationships.

3.3.4 Subjective outcomes

Seven papers examined patient evaluations of music therapy. Reker (1991), Heaney (1992) and Dye (1994) used questionnaire-based surveys. Silverman (2010) combined a questionnaire and interview to ascertain patient perceptions of different interventions, whilst Ansdell & Meehan (2010) conducted in-depth idiographic interviews. Two further qualitative studies were published in the last 12 months (Solli & Rolvsjord, 2014; Solli, Rolvsjord & Borg, 2013).

Reker (1991) designed a 25 item questionnaire for patients to rate their experience of active music therapy utilising structured music making. Thirty patients completed the questionnaire. Patients rated music therapy positively, particularly in terms of enjoyment, safety, relaxation and improvement in mood. Patients noted that it was anxiety provoking to play, although only 5 respondents partly felt that the music made them uneasy or frightened. Patients found it difficult to speak about the music although all rated that it was important to speak about the music after playing. Dye (1994) found patients rated both a singing and listening group highly, with slightly higher ratings for the singing group. Out of 39 responses, all but one were able to suggest a song that was meaningful for them during the session. Dye notes the consensus between individuals for favoured songs in the group, although personal reasons given as to why these songs were favoured varied between individuals. In his comparison of music therapy to other group therapies, Heaney (1992) examined ratings from 27 patients. He found music therapy consistently gained the most positive appraisals and was significantly more pleasurable than other groups, whilst there were no significant differences in importance and success ratings. Heaney found a relationship approaching significance for age, but no significant relationships between overall ratings and length of admission or previous hospitalisation.

When assessing patient perceptions of 5 psychoeducational interventions (individual game, team game, singalong session, lyric analysis, songwriting), Silverman (2010) found patients

rated the team game as most enjoyable and individual games the least. However, the individual game had highest helpfulness ratings and lyric analysis the lowest. Whilst patients could recall events in the group, they were not always able to state what the purpose of the group had been. All stated they would attend another session.

Ansdell & Meehan's study (2010) revealed in greater depth the experiences of patients who had significantly engaged in music therapy for a minimum of 10 individual sessions. The study met all but two of the qualitative framework criteria (attention to (12c) and explanation of (14d) negative cases, outliers or exceptions (Spencer, Ritchie, Lewis & Dillon, 2003)). Nine themes were identified: 1. Benefit is broader than symptomatic change; 2. Music therapy often involves reconnecting with a previous relationship to music; 3. Music therapy elicits and works with patients' "music-health-illness" narrative; 4. Qualities of 'musical' and 'therapeutic' are often experienced as a unity; 5. Aspects of musical process in music therapy are experienced as distinctive; 6. The therapist is experienced as an equal 'musical companion'; 7. Music therapy is experienced as distinctive in relation to other therapies; 8. Overall benefits are characterised as compensatory or alleviatory in relation to illness experiences; 9. A key benefit of music therapy is its ability to mobilise "music's hope". They suggest that the "music-health-illness" narrative forms 3 parts whereby patients have a previous positive relationship and history with music, which is lost when becoming ill, leading to a loss of music as a helping resource. The authors suggest that the accounts indicate music therapy enables this relationship to be re-established, thus providing patients with a means of seeking help from music themselves again.

Solli et al. (2013) conducted a meta-synthesis of music therapy studies in mental health that had sought to evaluate patient experiences. Whilst their papers included both inpatient and outpatient settings, half of these papers were those identified in this systematic review. The authors conceptualised patient experiences into a taxonomy of four areas:

a) Having a good time
    a. Pleasure and joy
    b. Freedom and relaxation
    c. Motivation and hope
b) Being together
    a. Belonging
    b. Teamwork
    c. Social participation

c) Feeling
    a. Awareness of emotions
    b. Expressing emotions
    c. Emotion regulation
d) Being someone
    a. Identity
    b. Mastery
    c. Regaining music

The authors make links of these four areas to the recovery model, noting that aspects of feeling are rarely addressed in the recovery literature and note the importance of the role of social participation across a range of mental health settings. They argue that aspects of recovery promoted in music therapy may enable services to meet increasing demands of promoting strengths and wellbeing (WHO, 2005), facilitating participation and active engagement with services and building better links between various types of mental health services.

Solli & Rolvsjord (2014) later conducted in-depth interviews with 9 inpatients diagnosed with psychosis about their experiences of music therapy. Participants attended between 14-55 music therapy sessions over 3-34 months. Sessions were a mixture of individual (N=2), individual plus group (N=3) and individual, group and performances (N=4). Using interpretative phenomenological analysis, the authors posited four superordinate themes:

a) Freedom – from illness, stigma, treatment
b) Contact – with oneself, aliveness, emotions, other people
c) Well-being- enjoyment and satisfaction, motivation, mastery, hope
d) Symptom relief- psychotic state, disturbing thoughts and voices, visual hallucinations

The authors note particularly how patients tended to view music therapy separately from treatment and illness and that the experiences within the group enabled a focus upon strengths and capabilities. Whilst problems and difficult emotions were addressed, these were experienced as being handled in a different way to interactions with other staff. In terms of well-being the authors suggest that whilst problems were not immediately relieved, the sessions enabled an experience of 'wellness' despite these. Within motivation, it was suggested that patients tended to complain that once a week was not enough and that attendance made their experience of being in hospital more tolerable and worthwhile.

Regarding symptom relief, the authors noted that many did not wish to speak about their psychotic experiences either due to not commonly speaking about them in music therapy, the complexity of the experience or that illness should not be considered in relation to music therapy. Two examples were provided where participants expressed their psychotic experiences became less worrying or positive during music therapy sessions. Playing active music was suggested to moderate or remove thoughts and voices, sometimes lasting for a few hours after the session and this was reported to be better when playing actively together rather than listening on their own. Participants suggested this was due to being calmed, distracted, concentrating and focusing on something else. Uniquely, this study also probed for harmful effects of music therapy. Seven participants reported no harmful or negative experiences, whilst two suggested that listening back to recordings led them to feel intimidated when it did not sound as good as they thought.

3.4 Discussion

This review has identified a wide variety of ways in which music therapists work within acute inpatient settings. Therapists respond to the challenges of the setting and system, as well as the diverse and individual needs of the patients. Initial engagement of patients with therapy is a core aim and emphasis is placed upon immediate presenting emotional, interpersonal and behavioural issues. Whilst papers describing clinical practice have some shared features which may be of importance for work in these settings, it is clear that as yet, no clearly defined model exists to accommodate the challenges of providing music therapy in acute adult mental health care.

Examination of more recent publications highlights some changing tendencies in music therapy practice. The duration of therapy in these papers is much shorter. This may be due to decreasing lengths of admission, or it may be that this sample came from countries where lengths of stay have typically been short in recent times. Clinical aims continue to focus upon engaging patients, focusing on building resources and interpersonal skills. The concept of resource-orientation was much greater in the recent papers, whilst psychodynamic and psychoanalytic approaches were rarely discussed. Five papers came from the same research group that developed the resource-oriented approach (Gold et al., 2013; Mössler et al., 2012; Solli, 2012; Solli & Rolvsjord, 2014; Solli, Rolvsjord & Borg, 2013), yet this has influenced further approaches as can be seen in Hannibal et al.'s adaptation for process oriented music therapy for personality disorders (2012). The concept of mentalisation was also new and applied in approaches from Germany and Denmark (Hannibal et al., 2012; Metzner, 2013; Strehlow, 2013).

Few studies have rigorously evaluated the effectiveness of music therapy specifically for acute psychiatric inpatients. The studies in this review provide some evidence suggesting that active music therapy can be effective in reducing psychiatric, positive and negative symptoms and improving interpersonal interaction, motivation and quality of life although the length of time evaluated in these studies is generally much greater than typical lengths of inpatient stay and all but one of these studies examined individual music therapy, which is less frequently provided in routine clinical practice. Studies of shorter durations suggest minor improvements, but these are not sustained at follow-up. Morgan et al. (2011) note that the short time of therapy (2 weeks) might explain the lack of significant findings in their study. Similarly, studies of the immediate effects of psychoeducational music therapy suggest minor improvements in a range of areas including coping skills, but these were not significant after 3 months. These findings are in line with the suggested dose-effect response (Gold et al., 2009) yet it remains unclear as to what role the immediate effects of primarily active music making and frequency of sessions may have upon processes and outcomes for this patient group.

More recent studies from the USA continued to take a psychoeducational, highly structured focus (Riley, 2013; Tague, 2012; Silverman 2013a; 2013b; Silverman & Leonard, 2012; Silverman & Rosenow, 2013). New intervention evaluations included structured drumming (Tague, 2012) and recreational activities for evenings and weekends. A new development has been the adoption of cluster randomisation of a range of active interventions although across these studies no significant effects were detected. This may be due to the small sample sizes and active controls. It is notable that general music therapy groups tend to perform just as well in assessments as the psychoeducational approaches. It may be that the shared features of these interventions makes detecting any effect difficult.

Gold et al. (2013) note the importance of the low drop-out rates in their study of patients with low therapy motivation which is reflected in many of the other studies included in this review. Whilst some may be due to assessment immediately after a single session, it appears that patients do engage with music therapy. Evidence is also stronger for immediate effects on mood both from quantitative and qualitative studies. However, observer rated scores for depression vary. This could be due to the low number of sessions or study heterogeneity.

Subjective appraisals of music therapy suggest that patients do not view music therapy as a medical treatment and see it as a means of strengthening of one's own capacities and resources, building hope and motivation to pursue music in the future. Solli & Rolvsjord (2014) make it clear that despite the views of patients, difficult and challenging aspects of their lives are brought to and addressed in sessions. The extent to which therapists may encourage this

varies though, with the resource-oriented approach arguing strongly for collaboration with the patient regarding the goals and focus of therapy. Psychodynamic and psychoanalytically informed approaches appear to argue more strongly for the potential to work with acute states of psychosis provided that focus is upon immediate 'here and now' interactions and that interpretations are kept to a minimum (Hannibal et al., 2012; Metzner, 2013). These approaches appear to be informed by the theories within these traditions and used as means for the therapist to understand interactions and formulate a response.

3.5 Implications, strengths and limitations

This updated systematic review suggests that acute inpatient care is currently of particular relevance in music therapy research and practice with 15 papers relevant to this review being published in the last two years. However, despite this body of work, research is still disparate, employing multiple types of intervention and assessing a wide range of outcomes. Group work utilising active methods is the most common approach, although the guiding models and ensuing activities and structure vary according to the country, training and stance adopted within the institution. An increased frequency of therapy has been adopted within Germany and the USA and evidence from Solli & Rolvsjord's study (2014) suggests that in general patients seem to desire greater access within the hospital setting. By offering a high intensity of sessions, patients might be able to access a greater number whilst in hospital and experience greater stability in the group, counteracting to some degree, the high turnover of patients. Another possible model is that of offering brief interventions, although as seen in the quantitative studies, outcomes that might be achieved in this amount of time might be limited. There is little research to link what happens inside music therapy sessions (the so-called 'black box') within randomised controlled trials to outcomes. To date, only one study (Mössler et al., 2012) has attempted to explore this, with some evidence for use of active techniques, particularly singing and playing of precomposed songs. Further research needs to disentangle the processes of music therapy for this population in order to better define indications and types of outcomes that may be achieved. Such research requires both quantitative measures and qualitative explorations of what actually happens in music therapy groups and how this is experienced by patients and therapists. Development of models with consistent aims, theoretical concept and delivery is required if feasibility and effectiveness of music therapy within these settings is to be tested in systematic research. This would assist in defining the role, purpose and effective clinical practice of music therapy in acute inpatient settings.

3.5.1 Strengths and limitations

The systematic review, published the candidate in PLoSONE (Carr et al., 2013; Appendix A) was the first systematic review of clinical practice and outcomes of music therapy in acute adult psychiatry. This update has ensured that current trends and developments have been identified as well as strengthened the theoretical basis of the original review. In both cases, the review employed a rigorous methodology with a wide systematic search strategy and quality appraisal. The range of papers identified was large and the use of thematic synthesis ensured that interpretations were fully grounded in the data presented. Core themes of clinical considerations and aims were represented internationally, indicating robustness of the synthesis although the manner in which therapists adapted their practice varied according to their approach and country. This limits the extent to which findings can be generalised to a UK NHS context and further research within this context is now warranted to better define a coherent model of practice.

Whilst the scope of the search was wide to detect variations in clinical practice, the relatively small sample sizes and varied approaches in research papers as well as the inclusion of lower quality designs means that little can be concluded regarding effectiveness. The review only identified five studies that would meet more rigorous criteria for meta-analysis of clinical outcomes, yet the diversity of practice and outcomes in these papers would mean that a meta-analysis may not yet be possible. The majority of papers identified in this review came from secondary searches performed after searching electronic databases. Many music therapy journals are still not listed within major research databases and future systematic reviews may benefit from ensuring key journals for specific countries are hand searched. Given the extremely wide nature of the review, the full depth of clinical papers is not covered. Papers from the Far East, Asia and France were under-represented with 6 unobtainable papers originating from these countries. The review may have therefore missed other important and potentially different ways of working.

3.6 Conclusion

This systematic review suggests that there is currently no agreed, well-researched and evidenced, clearly defined model of music therapy that accommodates the challenges of acute adult psychiatric inpatient settings. Music therapists have adapted their practice to meet the changes within services, modifying existing models of therapy to focus upon immediate and short term aims. Features of music therapy which may play an important role for this context include the frequency of therapy, active structured music making with verbal discussion, consistency of contact and boundaries, an emphasis on engaging and building a therapeutic relationship and building patient resources. Further research is now needed to develop clear models and aims, which take into account the acute inpatient context and provide information on the varying processes and outcomes. Such a model would provide greater clarity on the role and purpose of music therapy for acute adult inpatients and would provide a better defined framework of practice which can be tested in clinical trials.

CHAPTER 4

Methods for studying change processes in psychotherapy

4.1 Introduction

The systematic review in chapter 3 identified a number shared clinical aims and approaches for music therapy within acute psychiatric inpatient settings. However, it also identified a lack of clear research evidence, with many different approaches employed and outcomes assessed. Music therapy may be defined as a 'complex intervention' in that many components and processes are happening which, in combination, might effect change. In order to develop a model of practice within acute inpatient settings, it will be necessary to study both how music therapists provide music therapy groups and responses of patients to this. Such research focuses upon the processes of therapy. Whilst this type of research is not new to music therapy, few studies exist within adult mental health and acute settings in particular. Methods for studying psychotherapy change processes have also developed rapidly in the last 20 years. This chapter will provide a background to the development of complex interventions and describe change process research methods developed both in the fields of music therapy and psychotherapy. Consideration will be given in particular to the strengths and limitations of self-report questionnaires and microanalysis tools.

4.2 Complex interventions

Guidance for the development and evaluation of complex interventions was first published by the Medical Research Council (MRC) in 2000. They define a complex intervention as:

> "…built up from a number of components, which may act both independently and inter-dependently. The components usually include behaviours, parameters of behaviours (e.g. frequency, timing), and methods of organising and delivering those behaviours (e.g. type(s) of practitioner, setting and location)." (MRC, 2000: p.3)

Music therapy is a complex intervention in that it utilises a range of components to promote health over a wide spectrum of outcomes. Such components include a therapeutic relationship, a range of active and receptive musical activities and verbal reflection whilst outcomes might be based upon symptomatology, behaviour, communication, interpersonal relationships, self-concept or emotional needs. All of these are provided flexibly in response to the individual or group and are often led by the patient.

The MRC suggest different levels to which a complex intervention might be targeted: individual patient care, organisational or service modification, target on the health professional or at the

population level (MRC, 2000). Music therapy may be conceptualised as targeting at the level of individual patient care. However, if changes are made to the frequency at which this is provided, this might also be conceptualised as happening at the level of service modification.

A core difficulty in evaluating complex interventions is identifying which aspects of the intervention are the 'active ingredients'. In other words, the features of the intervention which are responsible for the intervention achieving its end goal. The MRC (2000) argue that understanding exactly what these active ingredients are enables the intervention to be modified and adapted for other contexts and parameters set appropriately for evaluation, ideally with randomised controlled trials.

Guidance was initially developed based upon analogous steps in the development of novel pharmacological treatments, but later modified in 2008 to address some of its limitations and to account for developments in its implementation (MRC, 2008). In particular, dimensions of complexity were defined. These included: The number of and interactions between components within experimental and control conditions, number and difficulty of behaviours required by those delivering or receiving the intervention, number of groups or organisational levels targeted, number and variability of outcomes and the degree of flexibility or tailoring of the intervention permitted (MRC, 2008). In order to address this, the guidance suggests that theoretical understanding of how the intervention causes change is required, that process evaluations should be used to identify problems in implementation, larger sample sizes and cluster-randomised trials should be considered along with a range of outcome measures and that interventions may be optimised if adapted to the local setting.

The current guidance outlines a number of phases which may not necessarily be sequential and may be revisited as the intervention is developed (figure 4.1). In the development phase, systematic searching of the literature is done to identify evidence for any potential effect. Theories are identified and developed and then applied to modelling of processes and outcomes. Once the intervention is understood in terms of its theory, potential processes and outcomes the feasibility of conducting an experimental study is then ascertained through pilot studies that assess procedures, estimate recruitment and retention and provide a means of determining sample size. This provides information as to whether it is possible to conduct a larger scale trial using this methodology, what changes might be required and whether the intervention requires further development for it to work in practice. Full scale evaluation may then take place to assess effectiveness, change processes and cost-effectiveness and the intervention implemented through dissemination, monitoring and longer term follow-up.

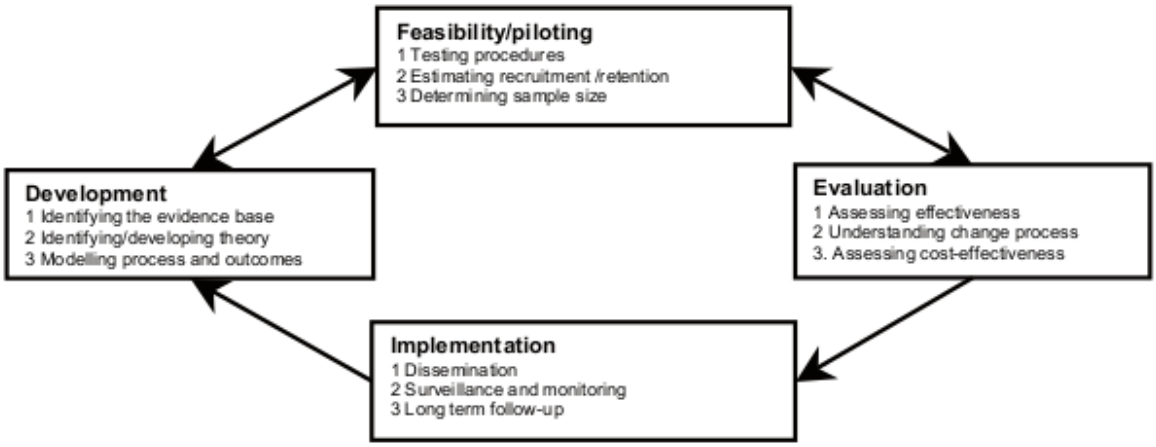


Figure 4.1 Phases of complex intervention development, taken from MRC, 2008: 8

The objectives of this thesis are placed firmly within the development stage of this process. The systematic review in chapter 3 has identified the existing evidence base, and begun to develop theory in terms of aims of music therapy and how the intervention is provided. Further theory development will occur through the development of an outcome measure and will also happen concurrently with modelling of processes and outcomes in the prospective study which will seek to describe how the intervention is implemented in practice and identify which aspects of the intervention are associated with positive subjective experiences of patients.

4.3 Music therapy process research methods

It can be argued that music therapy research has focused more upon understanding processes than any other aspect of research. The core client groups that music therapists work with often have difficulties communicating verbally due to neurological, physical impairment or developmental delay and may be completely nonverbal. Music therapists have therefore been faced with the challenge of articulating the process of nonverbal interventions, interactions and changes, often without a means of gaining the client's own narrative of this process. Throughout the development of the profession, the bulk of published literature related to case studies and developments of technique both musically and through the adoption of related theories (Bruscia, 1991; Edwards, 2005; Hadley, 2002; Meadows, 2011; Wigram, Pedersen & Bonde, 2002).

Musical notation and analysis provide one means of representing the interactions between therapist and client, whilst attention is also paid to the quality of interactions between client and therapist. Within the Nordoff-Robbins tradition, analysis of the musical interactions

through ‘indexing’ of sessions forms a core tenet of the clinical approach (Nordoff & Robbins, 1977; Ansdell, 1995). Traditionally the technique of ‘indexing’ involves listening back to musical improvisations, noting how the music is played, how therapist and client interact and whether the intentions of the therapist’s own contributions were realised in practice (Ansdell, 1995). With advances in recording and computing technology, microanalytic techniques have become increasingly sophisticated, with the potential to quantitatively analyse video and physiological data from sessions (Baker, 2007; Fachner, Gold & Erkillä, 2013; Ridder, 2007; Streeter, 2010). The level of microanalysis may focus upon the music, verbal or nonverbal components, the interaction, communication or relationship between therapist and client, emotion or quality of playing (Wigram & Wosch, 2007). The level at which analysis is performed is a complex decision. Traditional musical notation provides a means for those with a level of musical knowledge to see the musical interaction between client and therapist and the use of differing musical components such as rhythm, melodic phrasing and harmony. However, when improvisation is used, organising musical factors such as pulse, strict tempo and tonality may not be present making it difficult to provide a fully accurate representation of the music. Similarly, there are many nonverbal cues that may occur in response to the music. A therapist might observe a client nodding and adjust their tempo to meet the frequency of this movement, or a client might respond to a therapist’s upward melodic motif by raising their arms, making eye contact with the therapist and smiling. Analysis at one level frequently misses the complexity of these cross-modal interactions, yet to capture all is often unfeasible and beyond the resources of the clinician.

4.3.1 Microanalysis scales developed for use in music therapy

The growth in microanalysis methods has led to development of rating scales for this purpose. Quite often these scales are idiosyncratic, developed for a particular research question or client group. Scales which have been developed include the Assessment of the quality of therapeutic relationship (AQR; Schumacher, 2007); Scale for the measurement of expressive and communicative musical behaviour in music therapy (MAKS; von Moreau, Ellgring, Goth, Poustka & Aldridge, 2010); Improvisation assessment profiles (IAP; Bruscia, 1987) and the musical interaction rating scale for schizophrenia (MIR-S; Pavelicevic, 2007).

Schumacher (2007) developed a scale to assess the quality of the therapeutic relationship (AQR), based on theories from developmental psychology. There are four subscales that assess instrumental, vocal-pre-speech, physical-emotional qualities of the patient and the therapist’s musical intervention. The scale was originally developed for analysis of interactions with children with autism and focuses upon individual sessions. Analysis is assumed to be upon a

single excerpt of therapy and is intensive and subjective in its application of ratings. Von Moreau et al.'s (2010) MAKS scale evaluates expression when a client plays solo and communication within a dyad with the therapist. The scale was originally developed for use in assessments with children in psychiatric settings, although it has also been used in adult populations (Isermann, 2001; Plum, Lodemann, Bender, Finkbeiner & Gastpar, 2002). Psychometric evaluation of the scale demonstrated good reliability, objectivity and sensitivity to change with trained raters however it was implemented in music therapy assessments rather than actual individual or group music therapy sessions themselves.

The Improvisation Assessment Profiles (IAP) were developed by Bruscia (1987) to describe musical parameters of improvisations and relate them to aspects of the musical relationship developing between them. Uniquely, the scales assess not only the musical components (such as pulse, tempo, rhythm, melody, harmony) but the manner in which they relate to one another and change over time. The profiles are complex in that they assess six areas (integration, variability, tension, congruence, salience and autonomy) with up to 13 subscales for rating each. In his initial publication, Bruscia (1987) suggests that analysing a single improvisation would be insufficient and several examples should be used to gain a picture of how the client responds under various conditions. Whilst acknowledged as having potential value, the scales were not routinely used, possibly due to their inherent complexity and time required. A revised version was proposed in 2002, and a number of researchers have used one or two of the subscales in research since (Abrams, 2007; Bruscia, 2002; Isermann, 2001; Wigram, 2007; Wosch, 2007). To date, whilst potentially useful these scales have not been psychometrically tested and thus are still difficult to implement in larger scale analysis of music therapy sessions.

A final scale of particular relevance is the Musical Interaction Rating Scale, developed by Pavlicevic, originally for adult mental health patients (1991) and later revised for schizophrenia (1995; 2007). The scale focuses upon the musical interactions between patient and therapist and rates levels of musical interactions according to clearly defined criteria. Improvisations are divided into time units and each unit assigned a level. A global score is then calculated providing both process data and an overall representation of the average level reached within an improvisation. The scale was developed to rate individual interactions but again requires in depth analysis over the course of an improvisation and has not yet been applied to group settings.

4.3.2 Self-report questionnaires and patient subjective experiences

Within music therapy work in mental health, therapists are fortunate that many patients are able to communicate verbally to a greater degree than other clinical populations and thus provide their own perspective regarding the process of therapy. However, until recently, few studies were conducted to explore the subjective experiences of patients during music therapy. Music therapists have generally taken two approaches to explore this, either designing Likert scales for patients to rate, with or without free responses (Bunt, Pike & Wren, 1987; Hayashi et al, 2002; Heaney, 1992; Rowland & Reed, 2011; Silverman, 2010), or using in-depth interviews (Amir, 1992; Erdonmez-Grocke, 1999; Hairo-Lax, 2005; Lee, 2000; Solli & Rolvjsord, 2014; Stige, 1999; Trondalen, 2003).

Qualitative studies in psychiatry include interviews, such as those described in chapter 3 (Ansdell & Meehan, 2010; Solli & Rolvsjord, 2014) along with interviews with patients in the community (Stige, 1999; Ansdell et al., 2010). Stige (1999) noted that participants could note the effects of music therapy but that these were difficult to verbalise. Ansdell et al., (2010) sought to analyse a single musical excerpt from an individual music therapy session to identify where present moments emerge in the music therapy process, how this happens and explore the therapeutic potential that might be offered. A musical excerpt was analysed from the perspectives of a group of music therapists, a psychologist and a psychiatrist. It was aimed to also involve the patient in this analysis but she felt unable to take part.

Hairo-Lax (2005) explored the meaning given by alcoholics to group music therapy processes and their life context. Significant moments were selected by the participants during an interview and these were explored along with significant, helpful and hindering factors. She concluded that music therapy had importance for the participants in recognising and enhancing their quality of life and wellbeing. Significant moments were characterised as feeling present, and deep experiencing. Participants suggested that groups provided regulation and support including opportunities for interpersonal communication.

Amir (1992) interviewed clients and therapists about ‘meaningful moments’ in therapy. All participants were based in the community. Amir found clients were able to identify significant moments, but they found it hard to describe them. Categories of meaningful moments were generated building upon Hairo Lax’s work and were linked to potential factors and mediums used by therapists. Erdonmez-Grocke (1999) similarly looked at pivotal moments in guided imagery and music and analysed the qualities of the pre-recorded music accompanying these

moments. Clients identified pivotal moments but again, it was noted that it was difficult for participants to talk about the music in detail.

Trondalen (2003) has expanded upon these methods by triangulating client identified important moments in therapy with further analysis by another music therapist and clinical supervisor. Lee (2000) also analysed musical improvisations using therapist and client comments as they listened to the improvisation in its entirety. This was then played to experts and the findings triangulated.

4.4 Psychotherapy change process research methods

4.4.1 The contextual model of psychotherapy

Within psychotherapy research, Wampold (2001) outlines a contextual model of psychotherapy. The model acknowledges that change may not come solely from the specific nature of therapy itself, but rather, may be related to a number of specific, non-specific and extratherapeutic processes. These features may be unique to the particular form of therapy being delivered (specific), common to many forms of therapy (non-specific), or may occur outside of the therapy situation but contribute to outcomes (extra-therapeutic). Research within more traditional 'talking' therapies suggests that specific features (such as use of psychoanalytic principles in psychoanalysis, or focus upon cognitions in cognitive behavioural therapy) account for very little of the variance of improvement in psychotherapy, and that improvement may be better accounted for by nonspecific and extratherapeutic features such as changes in the client's outside environment, the therapeutic alliance, client expectancy of therapy and therapist allegiance to treatment (Lambert, 1992).

4.4.2 Non specific factors of music therapy: Patient and therapist factors, therapeutic alliance

Features of music therapy that are nonspecific (ie. shared with other forms of therapy) include pre-existing beliefs and experiences of the client, the client's expectancy that treatment will be beneficial, the therapist's allegiance to the therapy being delivered, and the strength of the therapeutic alliance formed between both client and therapist. Within group work, features hypothesised to be of importance and shared with other group therapies include the allegiance of the client to the group, group cohesion or alliance, group learning and interpersonal socialisation (Yalom & Leszcz, 2005).

4.4.3 Specific factors of music therapy: engagement in music making, use of music, level of musical interaction

Within music therapy, a specific and uniquely identifiable feature is that of making music. Rolvsjord, Gold & Stige (2005) applied the contextual model to a model of resource-oriented music therapy whereby therapy focused upon stimulating the clients' own resources. By using the framework proposed by Waltz, Addis, Joener & Jacobsen (1993), they suggest that principles unique to music therapy include engaging the client in musical interplay, acknowledging and encouraging musical skills and potentials, reflecting upon the music and musical interplay, and tuning into the client's musical expressions.

Of particular importance within music therapy is the formation of a relationship between client, therapist and other group members via the medium of making music. The nonverbal nature of music making within an improvised atmosphere can encourage the formation, development and exploration of relationships without the need for words. Music therapists have linked this potential to the formation of early mother infant relationships, and similarly Stern (2010, 2011) likens the 'dynamic' qualities inherent in nonverbal arts media such as music and dance to the formation of nonverbal interaction between a mother and baby. Music therapists use music making as a means of encouraging interaction and exploration of relationships with another which does not necessitate the cognitive understanding or insight of words. Music may also be used to express, represent or modify different emotional states. In a meta-analysis of music therapy for severe mental illness, Gold et al., (2009) suggest that motivation and musical engagement may be two possible mechanisms of change. Music may be seen as something that is motivating for people who are reluctant, unwilling or unable to engage in more traditional forms of psychotherapy whilst musical engagement may be the means by which clinical improvement takes place.

4.4.4 Identifying therapeutic processes

Methods to study the processes of complex interventions have developed rapidly within the last 20 years of psychotherapy research. Rather than prove effectiveness, the aim of such research is to find reasons for why and how change occurs. Elliott (2010) provides a typology of psychotherapy change process research methods: quantitative process- outcome, microanalytic sequential process, qualitative helpful factors and the significant events approach. Taken separately, each have differing strengths and limitations in the levels to which cause and effect might be assessed.

The most common form of methodology is process-outcome research, whereby processes of importance are identified and measured within psychotherapy sessions and then evaluated in terms of their predictive validity for outcomes. Often these take the form of correlational studies whereby a process of interest is quantified and then linked to a particular outcome (Aveline, Strauss & Stiles, 2005). Whilst many process-outcome studies have been conducted, a number of limitations are inherent. Stiles & Shapiro (1994) note that the concept of a linear relationship between increasing 'helpful' features of therapy and increasing positive outcomes does not fit with the relational and non-linear nature of psychotherapy and that the process of psychotherapy is dependent on multiple adjustments between client and therapist depending on what has just come before. On a more fundamental level, there are limitations from unreliable measurement and the potential to miss other variables of importance within the process (Elliott, 2010).

The "Significant events approach" (Elliott, 2010), counters many of the issues faced when modelling processes and outcomes and involves three phases. Both patient and therapist identify moments within therapy that are considered 'important events'. Such events may be positive and helpful, or negative and hindering, but considered as something of significance to the process of therapy. Important events are then linked to a video tape of the session so that the event can be described and analysed in detail. Whilst initial descriptions may be qualitative in nature, variables of importance may also be analysed and subject to quantitative description. Finally, processes within the session may then be linked to post-session outcomes, and over the course of therapy as a whole.

4.5 Conclusion

As shown in chapter 3, whilst there is a growing evidence base for music therapy in mental health, little attention has been paid to how it is provided within acute adult psychiatric settings. Music therapy is by definition, a complex intervention and if it is to be provided effectively within these settings, developmental work focusing upon establishing the evidence base and modelling processes and outcomes is required. A range of methods have been developed by music therapists to examine processes within music therapy, some of which are analogous to those developed in psychotherapy change process research. Of importance is the contextual model of psychotherapy which identifies aspects of therapy which might be shared across therapies or unique. In order to effectively model group music therapy both client and therapist factors need to be taken into account, in particular the client's expectancy of treatment, their motivation to engage and commitment to therapy may have a greater impact upon therapeutic outcomes than therapeutic technique alone. Regarding therapeutic

technique, the level to which a technique is unique to music therapy or shared with other therapies should also be considered. A unique and defining feature of music therapy is the use of music itself although the extent this can be separated from the therapeutic relationship is debatable given that the therapist uses music as a means of establishing and developing a nonverbal relationship with the patient. Other shared factors might be the use of verbal reflection and group processes shared across any group therapy. A comprehensive means of modelling processes and outcomes therefore should take into account pre-existing and process related client factors, interventions used within the session, client and therapist views of important events, helpful and unhelpful factors and finally, outcomes of interest. This preliminary model is represented in figure 4.2.

The methods to study the processes implied in this model would require both quantitative and qualitative means of evaluation at multiple time points with data from patients and therapists. As the focus of the thesis is primarily on the 'black box' of music therapy a level of microanalysis is also required. Many of these methods have been applied in music therapy research, but core limitations to date have been a lack of standardised measures of patient appraisal and the complexity of microanalytic technique. The candidate therefore sought to develop and pilot a measure of patient appraisal suitable for use with acute psychiatric inpatients which is presented in chapter 5. The method developed for the main prospective study is then presented in chapter 6.

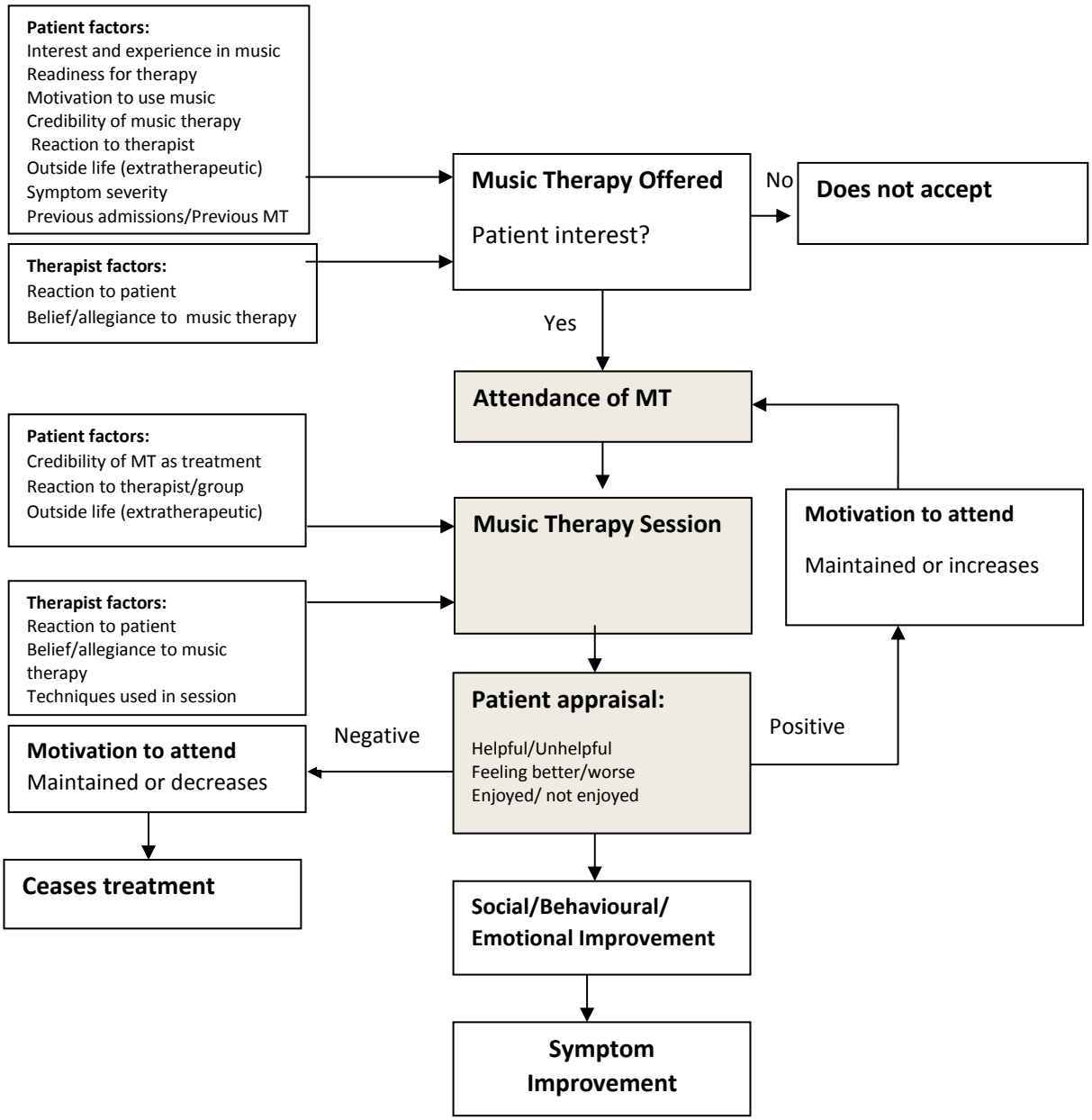


Figure 4.2 Preliminary model of factors involved in music therapy processes and outcomes

CHAPTER 5

Development of the 'Experiences of music therapy questionnaire'

5.1 Summary

The literature review in chapter 4 highlighted the importance of patient subjective appraisals in determining outcomes of therapy. Patient reported experiences have been employed in psychotherapy research as a means of identifying the relative importance and mechanisms of therapy (Bloch, Reibstein, Crouch, Holroyd & Themen, 1979; Elliott, 1985; Llewelyn, Elliot, Shapiro, Hardy & Firth-Cozens, 1988; Vikland, Holmqvist, Zetterqvist & Nelson, 2009). Within music therapy research, subjective experiences have traditionally been exploratory and captured either through self-report questionnaires (Dye, 1994; Heaney, 1992; Reker, 1991; Rowland & Reed, 2011; Silverman, 2007; 2010) or in-depth interviews (Ansdell & Meehan, 2010; Solli & Rolvsjord, 2014). Existing scales typically rely on subjective opinion and have not been tested for validity or reliability (Wigram, 2004) often devised by the researcher and not subject to any formal scale development or testing. The aim of the main prospective study presented in chapters 6-7 is to link what happens within music therapy sessions to patient appraisals of that session. Given the short lengths of stay, high patient turnover and symptom severity, a brief tool to assess appraisal was therefore required. The study presented in this chapter aimed to develop a questionnaire to capture patient experiences of music therapy. Steps in the development of the questionnaire are described which included the use of focus groups, interviews and piloting the questionnaire with patients. The final questionnaire is presented with a brief discussion of its strengths and limitations.

5.2 Existing measures of patient subjective experiences

Patient expectations and subjective experiences have been found to strongly predict the outcome of psychotherapy (Bohart & Tallman, 1999; Clarkin & Levy, 2004; Crits-Christoph et al., 1991). Patient characteristics may therefore play an important role in how patients engage and participate in therapy. Traditionally, subjective experiences have been assessed in terms of helpful and unhelpful factors, significant events or satisfaction with a service.

5.2.1 Significant events

Vikland et al. (2009) propose that researchers examine significant events within therapy as identified by the patient as these are most likely to 'contain the effective ingredients of change'. The 'most important event' questionnaire, developed by Berzon et al., (1963) and Bloch et al. (1979) has been taken up within psychotherapy process research more generally and has informed the development of a range of psychotherapy questionnaires, which are described below. As noted in Chapter 4, music therapy researchers have employed similar techniques with a variety of populations and illnesses. Most commonly, data has been collected via in-depth interviews, often some time after the end of therapy. However, none of these studies included inpatient populations and all involved in-depth discussions regarding the course of therapy. It is unclear to what extent acute inpatients will be able to identify important events during therapy and how the construct of an 'important event' is likely to be understood.

5.2.2 Helpful and unhelpful factors

The study of helpful and unhelpful experiences has been particularly prevalent in psychotherapy research. Scales developed within this discipline tend to focus on hypothesised therapeutic factors such as the Therapeutic Factors Inventory (Lese & MacNair-Samands, 2000; Yalom & Leszcz, 2005) and the Group Climate Scale (MacKenzie, 1987).

Dierick & Lietaer (2008) took a more comprehensive approach to scale development, developing a list of 155 items derived from existing research and literature and obtaining ratings of client satisfaction, client perception of change and therapist perception of change. Stiles (1980) developed a questionnaire to measure the impact of psychotherapy sessions (Session Evaluation Questionnaire, SEQ) which utilised 22 bipolar adjective scales for patient experiences of the session (eg. Bad-good, exciting-calm) and their emotional state (right now I feel…happy-sad). Elliott, James, Reimschuessel, Cislo & Sack (1985) interviewed patients regarding helpful and unhelpful responses of therapists during the session, along with the therapeutic impact. This was then operationalized into a rating scale (Elliott & Wexler, 1994) with ratings on subscales of task.

A limitation of these scales is that the types of experiences are generic to psychotherapy experiences as a whole and would not capture or differentiate between music and general group therapy experiences. The populations for the development and validation of the scales in these studies came from the community and rarely featured those using mental health services. The range of outcomes that are assessed is indicative of the many dimensions that appraisal may take and the scales typically have a large number of items.

5.2.3 Satisfaction

Satisfaction is often used as a means of gaining the patient's perspective both in process evaluations and outcome assessments (Ruggeri, 1994). It may be used to evaluate quality of care, as an outcome in its own right or as an indicator of aspects which need to be changed to improve patient response (Locker & Dunt, 1978). Satisfaction with treatment has generally been found to be associated with treatment compliance (Canuso et al., 2009) and reduction in symptoms (Gharabawi et al., 2006). Clients reporting high levels of unmet needs generally report lower satisfaction levels (Ruggeri, Lasalvia, Bisoffi et al., 2003; Leese et al., 1998; Bohart & Tallman, 1999). It is therefore likely that events of most importance to the patient influence their appraisal of treatment and would be strongly associated with overall satisfaction with the service. By identifying and evaluating the importance of specific expectations held by the patient, comparisons can therefore be made with level of satisfaction experienced and thus provide a better understanding of whether the service met the client's expectations and how this influenced their overall satisfaction.

Satisfaction as a construct may be a consequence of various factors including expectations of services, life attitude, self-esteem, illness behaviour, previous experiences of services and particular service characteristics (Barker et al., 1996; Locker & Dunt, 1978; Ruggeri et al., 2003; Svensson & Hansson, 1994). It may therefore be considered a 'multidimensional concept' (Ware et al., 1978; Ruggeri & Dall'Agnola, 1993). Williams (1994) notes the variety of meanings that might be ascribed to satisfaction when utilising a service and highlights the importance of grounding the concept of satisfaction within the patient's own personal experience (Williams, 1994; Fitzpatrick & Hopkins, 1983). Locker & Dunt (1978) note that global measures of satisfaction are most likely to be based upon events of importance or significance to the patient resulting in omission of appraisals of other aspects of the service. They therefore suggest a strategy of probing for particular areas to ensure that these facets of the service are not missed. More recently, research has focused upon patient expectations as a means of

understanding which aspects of a service contribute to patient satisfaction (Williams, 1994). Locker & Dunt (1978) note that expectations are likely to vary according to accumulating experience within a service and both should therefore be taken into account.

Satisfaction scales exist for a variety of populations and settings. However, these scales have been criticised as they do not define the nature of the satisfaction that is being measured and have not been assessed for validity and reliability (Locker & Dunt, 1978; Pettersen et al., 2004; Ruggeri, 1994; Williams, 1994). Studies that have sought to identify predictors of service satisfaction have not, until recently provided consistent results and have been criticised for poor scientific quality (Ruggeri et al., 2003). A frequent shortcoming of satisfaction measures is the general tendency of respondents to under-report dissatisfaction (Williams, 1994; Lebow, 1983) resulting both in skewed data and lack of detail regarding criticisms of services. Possible reasons for this bias include the lack of clarity regarding the concept of satisfaction and level of confidentiality perceived by the respondent. Some authors have noted the value in asking specifically about dissatisfaction, which has been found to yield greater detail in response. Some have argued that dissatisfaction may therefore provide a better indicator of appraisals of services than global measures of satisfaction in itself (Locker & Dunt, 1978, Ruggeri, 1994). Another shortcoming is the subjectivity of individual responses which may limit the generalizability of satisfaction measures as a whole. However, this may also be used as an advantage to gain understanding of the impact of a service or treatment from the patient's point of view (Ruggeri, 1994).

Despite the proliferation of satisfaction scales, these scales usually provide a general assessment of the service as a whole so would not provide a comprehensive assessment of music therapy. The ceiling effect encountered in the use of satisfaction scales (where the lower end of the scales is not used) means that unsatisfactory experiences are often not captured and scales are often lengthy to complete. A single item scale, while brief and easy to complete would only measure one broad construct, which has been shown to be multidimensional in character, and is much more prone to skewness and the ceiling effect.

5.2.4 Summary of patient subjective experience literature

No empirically validated scale exists to capture subjective experiences of acute psychiatric inpatients in group music therapy. Subjective experiences are highly complex and may be assessed in a number of different ways. In order to evaluate subjective experiences over time,

assessing expectations prior to therapy, significant, helpful and unhelpful events during therapy and overall satisfaction after therapy will be necessary to provide a full picture of the types of processes experienced by patients. Existing scales have not been developed for use in acute inpatient settings. Many are very long with complex language and concepts. Whilst evidence exists that severity of illness does not impact upon the ability of patient to provide reliable, valid and useful information (Naber et al, 1994; Awad et al., 1995; Ruggeri et al., 2003; Silverman, 2009a; Voruganti et al., 1998), it is nevertheless important to ensure that it is possible for inpatients to complete the measure given their symptom severity and possible medication side-effects.

5.3 Aim and objectives

This study aimed to develop a questionnaire to capture patient subjective experiences of music therapy in terms of treatment expectations, satisfaction, helpful, unhelpful and significant events which could be used in a longitudinal study of group music therapy for acute adult psychiatric inpatients. The objectives were to generate items to capture patient experiences of music therapy, check acceptability, content and face validity with clinicians and patients and to pilot the questionnaire to assess reliability and internal consistency of items.

5.4 Method: Development of patient experiences of music therapy questionnaire

Development of the questionnaire followed guidance developed by Streiner & Norman (2008) and followed steps of item generation, content and face validation using focus groups and interviews, revision, item selection and piloting.

5.4.1 Design and items

Three domains were proposed to cover patient expectations of music therapy, patient appraisal of the session, and significant, helpful and unhelpful events. Items were generated based upon items used in existing music therapy research in acute inpatient settings (Choi, 1997; Dye, 1994; Heaney, 1992; Reker, 1991; Rowland & Reed, 2011; Silverman, 2009a; 2010) and similar existing scales (Berzon et al., 1963; Bloch et al., 1979; Ruggeri et al., 1994). Items were written with care to ensure clarity and limited use of jargon and to maintain a balance between positive and negative wording. Items were reviewed in Doctoral supervision between

the researcher (CC), Psychiatrist (SP) and Music Therapist (H-OM) and with psychologists within the candidate's research department.

5.4.1.1 Patient expectations of music therapy

The aim of this section of the questionnaire was to identify the importance of specific music therapy expectations of patients for comparisons with overall appraisals of treatment. Questions were based upon the Verona Expectations of Care scale (VECS; Ruggeri et al., 1994) and modified to take into account specific music therapy and music experiences. Possible experiences were generated in discussion with music therapists and the candidate's doctoral supervisors which led to a list of 29 items (5 free response, 24 pre-determined based on the VECS). After further review, it was decided that this would be too long for participants to complete. Five music therapy specific items were kept along with 5 free response items.

5.4.1.2 Patient appraisal of the music therapy session

The aim of this brief scale was to identify patients with positive and negative appraisals of their treatment. Given the many dimensions this concept could take, its dependency upon the context and patient characteristics, and propensity for respondent bias such as halo or ceiling effects (Streiner & Norman, 2008), three basic constructs were proposed. Items were generated based upon previous questionnaires already used in the music therapy literature in acute settings (Choi, 1997; Heaney, 1992; Rowland & Reed, 2011; Silverman, 2009a; 2010). The measure aimed to provide a global assessment of the patient's appraisal of the music therapy session based on whether music therapy was helpful, whether the patient enjoyed the session and whether they felt better or worse after the session.

5.4.1.3 Patient experiences of music therapy

The aim of this questionnaire was to identify important events within music therapy, ascertain why this was important for the patient and provide details to describe which components of music therapy were implicated in this event (music, music therapist, group members). Items were generated based on the 'most important event' questionnaire (Berzon et al., 1963; Bloch et al., 1979) with music therapy specific items generated by the candidate in discussion with clinicians and the doctoral supervisors. Table 1 provides an overview of the initial domains of the questionnaires that formed the basis of presentation to patients and clinicians.

	Quantitative	Qualitative	Type of variable	Purpose
a) Patient Expectations				
Q1, Q2.1-2.5 Spontaneous expectations		✓	Free response- up to 5 expectations	To inform future content of expectation items. Content analysis to determine overall dimensions.
Q2.6 Playing music	✓		Interval	To measure the importance of specific dimensions in patient expectations of music therapy.
Q2.7 Enjoyment	✓		Interval	
Q2.8 Help with mental health problems	✓		Interval	
Q2.9 Learn music	✓		Interval	
Q2.10 Learn about self	✓		Interval	
Q3 Other expectations		✓	Free response	To check for any further expectations. Content analysis to determine overall dimensions.
b) Patient Appraisal				
Q1.1 Helpful	✓		Ordinal	Appraisal of helpfulness of music therapy
Q1.2 Better/Worse	✓		Ordinal	Appraisal of how much better/worse felt after session
Q1.3 Enjoyed session	✓		Ordinal	Appraisal of extent patient enjoyed music therapy session
Overall appraisal	✓		Ordinal	Sum of above 3 appraisal variables to provide an overall level of appraisal (positive/negative)
c) Patient Experiences				
Q2 Spontaneous helpful		✓	Free response	To inform content of helpful factors. Content analysis to determine overall dimensions.
Q3 Spontaneous unhelpful		✓	Free response	To inform content of unhelpful factors. Content analysis to determine overall dimensions.
Q4 Most important event		✓	Free response	To provide details on events that are of importance to the patient. Content analysis to determine the type of events that are of significance to patients within music therapy.
Q5 Type of event: *Listening, not playing *Playing in group/on own *Listening to group discussion *Talking to one person / group *Self-reflection/thinking	✓		Nominal – dichotomous	To identify 1. Where important events are located within music therapy 2. Provide comparison with described event to ensure reliability/accuracy
Q6 Timing of event	✓		Interval	To identify 1. When important events occur for patients within sessions. 2. To enable identification of events for analysis of session content
Q7 Why event was important		✓	Free response	To provide patient views on 1. The meaning of the important event 2. How the event impacted upon the patient. Content analysis to determine ways in which events impact upon patients.
Q8.1 Importance of Music	✓		Nominal – dichotomous Present/absent Important/not important	To identify 1. Whether variables were involved during the important event and 2. Whether the patient felt these variables were important. Frequency analysis to determine presence of these factors in important events, and patient perspective of importance in shaping these events.
Q8.2 Importance of Music Therapist	✓		Nominal – dichotomous Present/absent Important/not important	
Q8.3 Importance of group members	✓		Nominal – dichotomous Present/absent Important/not important	

Table 5.1 Initial questionnaire domains and items

5.4.2 Content and face validity – patient focus groups and interviews

When designing a new questionnaire, it is important that the content validity of items, is addressed early on in the design process (Vogt, King & King, 2004) as it has an impact upon whether the questionnaire will measure what it is intended to and how respondents will complete the items. Content validity may be defined as "the degree to which elements of an assessment instrument are relevant to and representative of the targeted construct for a particular assessment purpose" (Haynes et al., 1995, p.238). It can contribute to construct validation by informing the inclusion, definition and understanding of constructs within a questionnaire, and the number and phrasing of items to be included. In order to achieve this, the study aimed to run up to 4 focus groups with acute adult inpatients currently receiving music therapy. Focus groups are the best method suited for this inquiry as they offer greater opportunities for interaction between group members and the researcher and encourage discussion and debate of views (Halcomb, Gholizadeh, DiGiacomo, Phillips & Davidson, 2006). It may be possible to obtain a greater depth of discussion, which is more open and honest and provides the potential for exploration of opposing views as well as clear agreement (Vogt et al., 2004). Given the acute nature of illness and short durations of inpatient stay, it was unclear whether it would be possible to recruit the required number of participants and focus groups. The study design therefore also allowed for in-depth patient interviews. Ethical approval for this study was sought and received from London Queen Square Research Ethics Committee and can be found in Appendix B.

5.4.2.1 Subject Selection and recruitment

Patients were selected for the study based upon their participation in inpatient music therapy groups on two sites within East London Foundation NHS Trust. Recruitment happened in four two week phases, between December 2011 and April 2012. The candidate (CC) was introduced to patients on the six wards involved and attended a community meeting so that patients were aware of why she was on the ward and what she would be doing. The music therapists also informed those attending the groups of the study and provided the candidate's contact details if they wanted further information.

The number of participants and focus groups was determined pragmatically as there are as yet, no clear guidelines regarding the number of groups or participants required within focus group research (Carlson & Glenton, 2011). It is generally recognised that conducting a number of groups with fewer participants can be more beneficial than one single larger group in terms of generating information (Fern, 1982). However, the characteristics of the population to be

studied and the setting of the research also have a large influence on the research design. Many focus group studies employ grounded theory, which implies an iterative approach whereby the number of focus groups conducted depends upon the point at which data "saturation" (Glaser & Strauss, 1967) is reached. However, this may have required many focus groups of different participant characteristics and would not have been feasible for the scale of this study. The sample size was therefore determined to take into account the potential difficulty of recruiting patients to the research, but to obtain a range of views that would be representative of patient experiences of music therapy. It was also anticipated that it would be difficult to stratify the focus groups given the small number of potentially eligible participants who would meet the inclusion criteria and the short durations of stay within the hospital setting.

By conducting 4 focus groups (2 at each site), it was hoped to capture a range of views from different services, whilst providing a sufficient amount of data to gain an understanding of patient experiences and views on completing questionnaires (Burrows & Kendall, 1997; Rabiee, 2004). As noted by Castel, Williams, Bosworth et al. (2008), the inclusion of two groups at each site provided the potential to limit bias from one single setting and also provided the potential to look for commonalities and differences across groups. A sample size of between 16-48 participants provided some flexibility in recruitment (it was possible to run a group if there was a low response, but equally possible to include a larger number, should there be interest). This is also in line from recommendations in the literature which range from anything between four to twelve participants in a group (Carlsen & Glenton, 2011; Castel et al., 2008).
Given the small number of subjects likely to meet the inclusion criteria within East London Foundation NHS Trust, and anticipated difficulties in recruiting patients to this research, purposive sampling was used. The inclusion of a minimum of 4 patients per focus group allowed for discussions and dynamic interactions whilst a maximum of 8 per group was set to ensure that there was space for all participants to partake in group discussions.

Patients were selected for the study based upon their participation in inpatient music therapy groups on two sites within East London Foundation NHS Trust. Patients attending music therapy were informed of the study via a designated member of the ward multi-disciplinary team (Ward Healthcare Professional, HCP) and asked if they would like to participate. Those who expressed an interest were asked to consent to the researcher contacting them and provided with a patient information sheet. The Ward HCP provided the names of those interested, along with information regarding their command of English and mental state. The researcher then met with patients to go through the study information sheet and provide an

opportunity to ask questions. The researcher explained the purpose and nature of the research, assured patients of confidentiality, clarified expectations and asked if they would be willing to participate in the focus groups. If the patient wished to participate, informed consent was then obtained after a minimum of 24 hours. Patients were informed that participation would not have any impact upon their care and that they were free to withdraw from the study at any time. Participants were provided with written confirmation of the date, time and location of the focus group by the researcher immediately after written informed consent was obtained. A further written reminder was given in person where possible one day before the focus group. Participants were assured that they were free to withdraw from the study at any time with no further implications for their ongoing care. The patient information sheet and consent form can be found in Appendix B.

Mental capacity was assessed in a number of steps. Prior to meeting with the patient, the researcher sought advice from the ward HCP regarding the patient's current mental state and an appropriate time to meet. Capacity was then assessed in the initial meeting to discuss the study and meeting to obtain informed consent. In both meetings, the researcher checked the patient's understanding of the purpose and nature of the research, what the research involved, the relative benefits, risks and burdens, alternatives to taking part, the patient's capacity to retain the information long enough to make an effective decision, their ability to make a free choice and their capacity to make the decision at the time it needed to be made. If a patient was assessed to lack the mental capacity to participate, this was explained to the participant and they were offered an appointment at a later point to assess capacity and the opportunity to participate in a future focus group or in-depth interview if this was possible.

For each participant, age, gender, ethnicity and number of hospital admissions was recorded. Before each focus group, participants were asked how they would like to be referred to during the recording (whether it was ok to use their first name, or whether a pseudonym was preferred), to further protect anonymity.

5.2.4.2 Inclusion Criteria

- Capacity to provide informed consent
- Age 18-65
- Currently attending inpatient group music therapy
- Basic command of English language

5.4.2.3 Exclusion Criteria

- No command of English language or assessed as not having capacity to provide informed consent

5.4.2.4 Procedure

Focus groups took place over two hospital sites within East London Foundation NHS Trust. Interviews and one focus group were held in a group room on the ward. One focus group took place in a larger multipurpose group room off the wards with a member of ward staff present outside should participants wish to leave early. Discussions were scheduled to last up to 1 hour; interviews lasted up to 45 minutes. Both focus groups and interviews were semi-structured, and followed a topic guide (Appendix B). The topic guide was developed through discussions with doctoral supervisors, researchers within the candidate's department and music therapy clinicians and covered:

1. Patient understanding and expectations of music therapy
2. Patient experiences of music therapy including examples of important moments during therapy
3. Experiences of completing questionnaires
4. Evaluation and suggested improvements of proposed questionnaires

The doctoral candidate led both interviews and focus group discussions. An additional moderator (CH) assisted in setting up the room for focus groups, operating the audio recorder and made notes of nonverbal interactions. After a general discussion of participants' experiences of music therapy, the questionnaires were then presented to participants to complete. Participants were encouraged to ask any questions they had during completion. The focus groups concluded with a discussion on questionnaire comprehension, length, layout and wording.

Discussions were recorded on a digital mp3 recorder and transcribed and imported into NVivo software (QSR International) for computer assisted qualitative data analysis. Framework Analysis was used to analyse the data (Ritchie & Spencer, 1994; Krueger & Casey, 2000; Rabiee, 2004) and involved steps of familiarisation, identification of thematic framework, indexing, charting and mapping and interpretation. Findings were presented twice to researchers and Trust music therapists after the second and final focus groups and to music therapists at the 7th Nordic Music Therapy Congress in June 2012. The presentation incorporated discussions on the findings so far, to ensure that a range of clinical and

researcher viewpoints were taken into consideration and to minimise bias in the interpretation of results.

5.5 Focus group and interview results

Out of 39 patients attending music therapy, 23 (59%) expressed an interest in taking part. Of these, 14 consented to take part, 8 declined after meeting with the researcher, and one was unable to demonstrate sufficient capacity regarding understanding of the study. One participant was not comfortable with taking part in a group discussion and so an individual interview was offered. A second participant was unable to make the date of the scheduled focus group but was happy to take part in an interview. It was not possible to obtain consent of three or more participants to simultaneously take part in a focus group on one site. Instead, five individual interviews took place. Two focus groups and 7 interviews were conducted over the study period, with a total of 14 participants. Participant characteristics are detailed in Table 5.2. Participant ages ranged from 20-64, with the majority being male (N=10). Participants had a range of diagnoses (ICD F1-F4) and varying numbers of previous admissions (1-18).

Age mean (range)	37.6 (20-64)
Male gender	10 (71.4%)
Previous Admissions	4.93 (1-18)
English as first language	9 (64.3%)
Diagnosis: Disorders due to substance abuse (F10-F19) Schizophrenia related disorders (F20-29) Mood disorders (F30-39) Neurotic, stress-related disorders (F40-49)	 5 (35.7%) 6 (42.9%) 6 (42.9%) 1 (7.14%)

Table 5.2 Participant characteristics of focus groups and interviews

The focus groups lasted for 40 minutes and 25 minutes respectively. Interviews ranged from 8 minutes to 38 minutes, with an average of 27 minutes. One interview participant wished to finish the interview prior to completing the questionnaire and left after 8 minutes. Participants remained for the entirety of the interview or focus group in all other cases.

5.5.1 Expectations of music therapy

Nine participants commented upon their expectations of music therapy. Expectations included enjoyment, to try new things, create ‘new beats’, release emotional tension and to have an

opportunity to think and reflect. Three participants suggested that they were not prepared for what to expect whilst three participants also expressed surprise at having musical instruments.

> *"Yeah before, before I thought that* [attending] *I didn't really understand, you know"* PPT13, Interview

> *"What I expected- what I thought was gonna happen was that they were gonna play records, play songs and within our point of view of how that song, how that track made us feel and what it made us think of [mhmm] yeah? I didn't know there was going to be instruments in there and then I see the instruments in there - I just had a little chuckle to myself and thought to myself, no, this woman's now, she's gonna teach us how to play instruments yeah? [mhmm] that's all it was. [mhmm] No I quite enjoyed it, err [patient name], he enjoyed it, I enjoyed it, [laughs]"* PPT3, Interview

One participant suggested he did not have high expectations of the group and was surprised when he attended:

> *"Errm- I probably thought, it might, I might not be that interested, it's going to be boring [mhmm]. But I thought to myself, give it a try, you're gonna like it and I did give it a try at the start of it, it had keyboards, nice instruments [mm] and from there I did really love it."* PPT8, Interview

5.5.2 Experiences of music therapy

Themes central to the discussions are displayed in figure 5.1 and consisted of music being viewed by patients within the context of their pre-existing relationship to music (particularly in relation to listening to their own music on the ward); making connections (to cultural identity, unknown parts of self, emotions, thoughts and people); and motivation to engage, pursue music or further learning. Positive experiences of music therapy included improving mood, feeling better, providing occupation, relaxation, motivation and enjoyment. Some noted that music therapy enabled them to either take their mind off, or address their symptoms. Negative experiences included the groups being too loud, noisy or unmusical, exacerbation of symptoms, interpersonal conflict such as dominating the session or not listening, non-attendance or participation, differing problems and levels of musical experience, and dislike of particular instruments (usually small percussion).

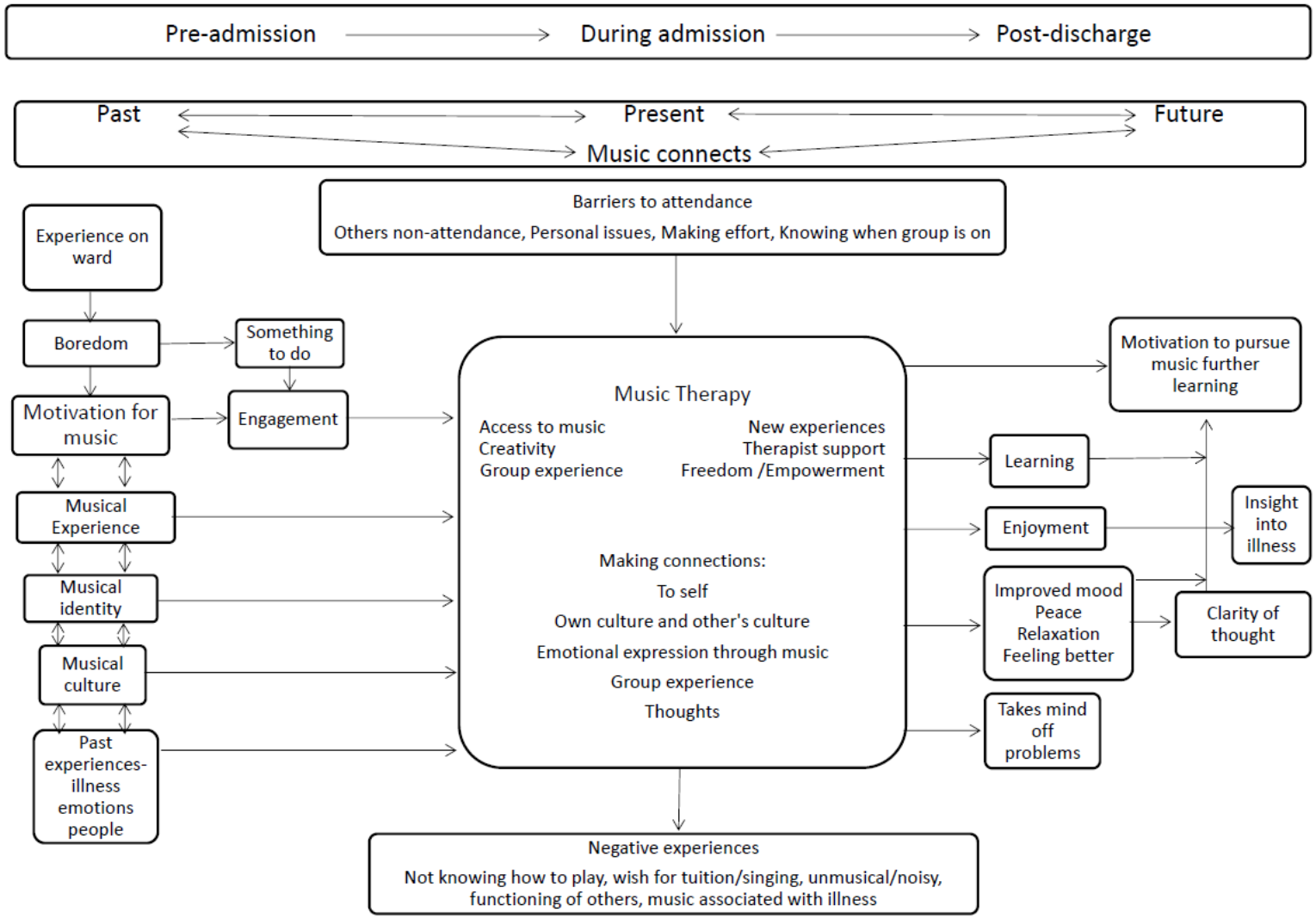


Figure 5.1 Experiences of music therapy- analytic themes from focus groups

Music therapy within a pre-existing relationship to music

Participants referred to music therapy within the context of their pre-existing relationship to music, and spoke of music playing an important role in their everyday life. The role of music within the hospital setting was particularly pertinent. Patients used listening to their own music to escape the ward environment, to aid sleep and sharing their music to form relationships with others on the ward. Some described the impact of their illness upon their relationship with music, and suggested that music therapy provided a means of reconnecting with music whilst in hospital, and a fostering of motivation to continue this relationship once discharged.

> *"Music therapy…it's about you ain't it?. . . Music is a part of a person, music IS the person's soul…"* PPT3, Interview

> *"There's others on TV so I just listen to my music on my i-pod headphones, you know spare time, and I just slide down in my room, but how long I can do that, I can't do that all the time"* PPT12, Interview

> *"There's other ways as well, music therapy, in the quiet room, some of the patients sometimes bring like their - well not any more - but when I was without my CD player, I just went to the quiet room, down the room, as long as they're not making too much noise, we'd put on our music and all relax to our own musics*" PPT12, Interview

> *"maybe…music therapy can cover a wide spectrum"* PPT5, Focus Group 1

Making connections

Music therapy itself was seen as a means of repairing or forming new connections to identity, emotions, people and thoughts and memories. Participants from different cultures valued the opportunity to share music from their own culture in sessions, and to sing in their own language, whilst sharing the meaning verbally afterwards.

> *".. in the songs you can say your life story you know, so I mean in my language, songs, err they say my life story, how your future will become, what about your past, that you shouldn't forget it..."* PPT13, Interview

Music therapy offered a ‘new experience’ of themselves.

> *“And I find another part of myself, it's a dark part, and I don't really know who that person is. It's err, it's a musician inside me... you know? And that musician is in a different world, like, he's in a different dimension and it's frightening, cos I don't really know who he is...you know? Serious, I don't know who he is, he's a dark figure. I hope he's a nice figure, bloody hell, I certainly do, cos if he weren't...I wouldn't be happy with that.”* PPT3, Interview

> *“…to my surprise I found that you know, erm on a few occasions I've suddenly stopped playing any instrument and I've started dancing to the music the others were playing after the beat of somebody's err drum or something and erm, I felt that and- and that got me to the idea you don't have to just use the instruments that are on display you can also use your hands and your feet.”* PPT1, Focus Group 1

> *“I've found erm recently. . . there was only two of us there and erm, err, I almost found myself almost composing. . .and it was really quite inspiring because I was able, I was actually almost composing. Just just doodling but composing and I couldn't do anything like that on my own but when somebody else is playing something you can, you can sort of harmonise along with them.”* PPT2, Focus Group 1

Participants spoke of using music, and singing in particular to express emotions.

> *“because sometimes you know, people are so still in their mind you know. . .inside like that they're thinking that because sometimes they're like err unhappy and they sing sad songs and stuff, and so I like to- I like to sing sad songs it makes me - makes my erm err you know my upset things go down, I don't like very err you know the happiness songs, I like very sad songs, [that matches] it matches my feelings you know, because sometimes they tell you about what happens to your life, that, in the songs it comes out, some of the songs it makes your feelings, your erm future comes out”* PPT13, Interview

> *“Because I can pretend that the big drum is my psychiatrist and I'm hitting him on the head with my drum.”* PPT5, Focus Group 1

In a discussion about whether tuition should be part of music therapy, one of the focus groups came to a consensus that it was important to give space and time to musical self-expression and that tuition might hinder this process. One participant suggested that learning about music might take the focus off emotional issues:

> *"..and maybe sometimes learning about musical keys you can put your emotions and your problems to one side.."* PPT5, Focus Group 1

Towards the end of the group, another participant suggested that music was the best way to express emotions, with strong group agreement:

> *"I think music is erm the best way for people to express emotions. There's no other- there's no better way than music. [PPT4: I agree] [PPT1:.. and singing] Well singing is a form music. [PPT4: I love singing, I love singing, to me..] [PPT1: and dance…] Yeah. But dance would require music- but music is the medium. It's the best, it's the best medium for expressing emotions and erm, I've found music therapy very therapeutic from that point of view"* PPT2, Focus Group 1

In the second focus group, one participant likened sharing how he felt at the end of the session to a rehearsal:

> *"And they ask you how to describe how you feel for the day… and then at the end we've got the rehearsal to really say how we're feeling and so . . .we tell at the end of it, we tell everyone at this how"* PPT9, Focus Group 2

Connecting thoughts:

One participant described how she had been worried about losing her clothes due to her confusion. After attending music therapy she explained how her mood was uplifted, enabling her to remember where she had put her clothes and to face her admission with less fear.

> *"…but due to music therapy, because after the lady made me laugh and smile, I kept asking the nurses, 'where are my clothes?'. . . but I didn't know what was going on, either in the outside world or in the inside world, in here, I was confused, and that's how music therapy helped me, when I was happy in my heart, I found my clothes, this is the first key, and the second key was to just put my makeup on and smile, and then I'm not so terrified and minding my own business."* PPT12, Interview

Four participants explained how music therapy helped to provide insights into aspects of their illness. One participant felt that music therapy was not viewed by staff as a '*legitimate*

treatment' and felt that occupational and arts therapies' roles in promoting *'wellness'* were not given enough prominence within hospital. Another explained how the experience of music therapy had given him motivation to continue his recovery after discharge:

> *"Music is brilliant and never give up. Give up is not the way. I gave up a lot of times, I thought to myself I can't do it, I'll just, no life guy, but now I've got qualities in me, everybody's got quality in them. You musn't say to those who are are like this, oh I'm disabled now, nothing can be sorted, you, if you put pressure like that to yourself, you're never going to get better. You have to say yes I can do it, I am a better person and I'll go home and say myself, I can change myself and no more way to this druggie road."* PPT8, Interview

The final two participants explained how they had begun to recognise their use of music when they were unwell. One explained this in the context of a significant thought that had occurred to her during a music therapy session that she felt had helped with 'part of [her] illness':

> *"…I say, this one because you know I - like my illness, I played in music therapy - when my illness started, I tried to dance and listen and put my music on in my room and dance, so, that's what I was thinking, in my feelings I was thinking when my illness started I listened to songs too much, every day and night after an hour, two hour. . . so because of that. . . I think that's why- it's part of my illness, that's why I was saying that."* PPT13, Interview

Another participant had a very negative experience of music therapy. Whilst he felt connected to, and used music listening to cope with his traumatic experiences, he found the volume and 'noise' within the group triggered traumatic memories. He explained how he had come to realise which sorts of music were helpful and harmful to him:

> *"…every musical they can't help me. Only medium and err err before I listen - listen to medium music and sad music, before I listened to the sad music, and now I - when I bring me in this hospital, at the moment I understand, this sad musical - when I alone, when I alone I don't have anything - thinking about the outside and now I understand the sad music is very bad for me and err medium music is very good for me. And loud music, I can't, I can't listen."* PPT14, Interview

Connecting people:

Patients valued the opportunity to make music together as a group, and the experience of "unity":

> *"it's like a team playing you know? [mm] Someone is playing keyboards, someone is playing guitar, someone is playing drums. It's err,... like a rope. Yeah? If you are holding the two ends and shaking it. and they are the same things tying up.. that's why I like it."* PPT6, Interview

The relationships formed within the group could then extend to the ward. For one participant, this enabled greater understanding of her illness and the realisation that others were also having similar experiences.

> *"…one of my friends, she also telling me how she think they were telling her she was putting the volume down of the music, and dancing all the way up and I said I've got the same problem. [laughing]"* PPT13, Interview

Fostering motivation

Participants described music as motivating them to engage in groups, to engage with people, to pursue music or further learning. Barriers to attendance included making the effort to attend, personal issues and not being informed when the group was on.

> *"…it is one of the groups that I do attend regularly. . . and I suppose like today again, I didn't want to go, but I'm always glad when I have gone."* PPT2, Focus Group 1

> *"I've just actually enjoyed handling the instruments, [PPT5: yeah] and it's made me regret that I hadn't actually ever learned to play an instrument, and it's also actually made me very much want to learn to play an instrument."* PPT1, Focus Group 1

> *"I really want to go college or university and I want to get a job in this now music."* PPT8, Interview

Unhelpful and negative experiences

Negative experiences fell into four inter-related sub-themes of musical experience, the impact of other participants, quality of the music being played and music being associated with painful memories.

Participants noted that it was difficult not knowing how to play instruments- most commonly keyboard or guitar. One participant noted that guitar lessons used to be provided on his ward but these had stopped:

> "*Well I mean like most people that come in here don't really know how to play an instrument, they just, you know, do what they can you know, so if there was more like, tutor led, maybe, groups, or one on ones, that would definitely help people out, I think that that would people would enjoy that even more, yeah, than just come to music group."* PPT11, Focus Group 2

As noted in the section on emotional expression, one focus group discussed incorporating an element of tuition into sessions although group consensus was that this should not be to the detriment of making music together:

> *"But can I just say there, that I- I wouldn't like the music therapy sessions to turn into a teaching about music and teaching about terminology I really don't [yeah-5] I'd just like occasionally to throw it in. I really think it's essential- the main enjoyment I get from musical therapy is handling the instruments, learning about the instruments [yeah-5], listening to each other."* PPT1, Focus Group 1

The ability of others to function in the group was noted as impacting upon the group. Participants spoke of how people's ability to participate could vary, of a wish to see others doing better and of upset at witnessing others in distress or unable to join in.

> *"I do really want other people to sing as well, participate like me, . . .I'd love to encourage them now, . . .I want everyone to do better now- yeah? It's sad to see the next person sick. I can't see the next person be ill. I want them to be better as well."* PPT8, Interview

> *"…me and my friend, I make friend with a patient – [she is] also like me, she said [ppt name], with your singing, we'll support you, but some patients are quiet and they're more depressed than us, you know, so they just do whatever they say to do. So some patients are they well enough and that I know and they enjoy, so and like how I do, they are also enjoying it. [laughs]"* PPT13, Interview

Participants found it difficult when other group members dominated a session, did not listen to others or spoke a great deal.

> *"So the most unhelpful part of the music therapy this week - I know, was people talking or talking too much. [writing] The patients, that wanted to sing, and make us all listen....and didn't give others a chance. [writing]"* PPT12, Interview

> *"There's a lady out there, she wants everything her way. . .she won't give a chance to no-one and that's a bit of selfishness that's bad."* PPT8, Interview

Participants tended to link the impact of others in the session to the qualities of the music that the group produced. Music that was experienced as 'loud', 'noisy', 'a muddle of noise', getting 'into your brain', 'bad noise' and 'disharmony' was viewed as frustrating, difficult and upsetting. One participant linked this to his own tastes or preferred qualities in music:

> *"It was loud - I could hear it from outside the room and it was peaceful, cos the reason why it was peaceful is cos it was all err females doing it, females playing instruments. If it was men, males doing it- it would've been [laughs] a lot more aggressive. . .I like quite peaceful music, yeah? [mm] I don't like aggressive music. Aggressive - it could be aggressive music, loud music, but the tone has got to be peaceful."* PPT3, Interview

Participants noted the importance of learning to listen to one another as a means of overcoming this.

> *"I studied music in school, so, I'm a bit of a musician but I know how difficult musicians can be as well so. it's just like, you know everyone's doing their own thing sometimes, and you know, you really want it to come together and make something really nice sometimes it's yeah, sometimes it's a bit difficult."* PPT11, Focus Group 2

> *"One of the difficulties I've found erm. . . is when everybody is so happy to just play their own instrument and choose their own instrument and are discovering the sound that the instrument makes and are focusing on just themselves and the instrument that they're not listening to others and then it can be very, very unmusical and [that's right-2; mm-5] very, very noisy and it can be very very horrible at times but err I think that's part of the course. You've got to have that. But then I- because I'm guilty of that, I did that. I wasn't listening to other people but now I'm beginning to listen to a beat and follow that beat and so I'm learning."* PPT1, Focus Group 1

"I agree with what [1] says erm I think that it can end up with a lot of the group just making a noise and that's very frustrating, but if you can actually just listen to each other or just find out what key somebody else is in- make sure you're in the same key, erm, that, that works quite well…" PPT2, Focus Group 1

For some participants, music reminded them of past experiences which were painful. One participant spoke of destroying songs he had written and now found certain music painful to listen to. He made a distinction between music on the ward and the music therapy group:

"I just chucked everything away. You know, that's like me chucking my life away, you know that? and that bloody hurt that did. . . That's why I gave up music, that's why I gave up my guitar. . . You know, I gave up, of basically on life you know? And every time I hear music now, sometimes it hurts me, sometimes it makes me happy. See we all go through different experiences. Music can make you sad. Sadder than what you are, or music can make you happy. . .but [when] he puts the radio on [mm] and that hurts me that does, first thing in the morning. . . But when I'm in [music therapist]'s class, doing what I wanna do, it's me doing what I wanna do. It takes away the pain. You know?" PPT3, Interview

As noted previously, the second participant spoke of music triggering flashbacks to traumatic events, including being tortured by being made to listen to music. He explained that he had stopped attending music therapy sessions because of this, although he listened to his own music and played on his own, which he found helpful:

"…it's too loud because when I listen it makes the problem for my mind - it's - it sounds like they shooting in there for me . . .But when I come I err I err I remembered bad times in life - bad times in life what's happened for me . . .this remembers [CC- brings back the memory?] - brings back the memory." PPT14, Interview

"Any - I this - what's this [whistles] - [CC- like a recorder or whistling?] - whistling I do that - I do that it - help me you understand? I do it some music I remember - I do it it's err- err - I can't I can't err I cant forget the some problem you understand, I working and doing that has helped me - helped me - sometimes I love song - I singing, it helps me - it calm- calms some open heart - it's open heart because I can't say anybody, it's helped me." PPT14, Interview

5.5.3 Participant views of questionnaires:

Participants gave a number of suggestions to improve the questionnaires. Participants were generally happy to discuss their experiences of music therapy, although three expressed some uncertainty when invited to have a go at completing them. One was happy to complete the questionnaires, but noted out loud to the interviewer that he did not want the nursing staff to know what he was writing. Participants were keen to ensure that their views were communicated and frequently wanted to check how to spell words in the free responses and ensure their responses were legible. The second focus group suggested that it would be important to ensure participants felt well enough to be able to complete the questionnaire, noting that it can be difficult to focus if unwell or tired. The acceptability of the length of the questionnaire varied. One participant felt overwhelmed and unable to complete the questionnaire. Others suggested that the length was 'ok' or 'alright' but not to make it any longer. One participant suggested that the questions were condensed to make a shorter questionnaire.

Discussions of the questionnaires identified the following problems:

- Questions relating to expectations of music therapy were generally considered confusing, and did not make sense to participants
- Those with English as a second language or low literacy levels required explanation or questions to be read out orally in order to complete them
- The length of time since the session impacted upon ability to complete most important event questions
- Those with low concentration and slowed responses took longer to complete the questionnaire, but were able to do so given time
- More space was needed for free response answers
- Likert scales and the visual analogue scale for the timing of the most important event required additional explanation

5.5.4 Item selection

Questionnaires were revised to clarify terminology along with items flagged as difficult to interpret, ambiguous or incomprehensible in the focus groups. The reading level of questions was checked using the Flesch reading ease and grade levels. Sentence lengths were inspected and revised to take into account difficulties with literacy, English language and concentration. The revised questionnaire domains are presented in Table 5.3.

The expectations of music therapy domains were dropped as it was felt after discussions with Supervisors and team meetings that this was not well understood in the focus groups and generally considered too long. Instead, a shorter questionnaire was suggested which evaluates the perceived credibility of treatment (Devilly & Borkovec, 2009). The scale has four items and assesses the extent to which the patient believes the treatment may help to address their problems. A further questionnaire, the Interest in Music Scale was published shortly after the focus groups (Gold et al., 2012). The scale was developed with music therapy in mind, tested for its psychometric properties and assesses current musical experience and use. This would enable patients' pre-existing experiences of music to be taken into account in the analysis.

	Quantitative	Qualitative	Type of variable	Question
b) Patient Appraisal				
Q1.1 Helpful	✓		Ordinal	Did you find the music therapy helpful today?
Q1.2 Better/Worse	✓		Ordinal	How did you feel after music therapy today?
Q1.3 Enjoyed session	✓		Ordinal	Did you enjoy the music therapy today?
Overall appraisal	✓		Ordinal	Sum total
c) Patient Experiences				
Q2 Spontaneous helpful		✓	Free response	The most helpful part of music therapy today was:
Q3 Spontaneous unhelpful		✓	Free response	The most unhelpful part of music therapy today was:
Q4 Most important event		✓	Free response	Think back over your music therapy today. Of the events which occurred, which one event was the most important for you personally? The event might have happened while you were playing music, while you were talking, while you were listening, or it might have been a thought that occurred to you. Please describe the most important event (what happened?).
Q5 Type of event: *Listening, not playing *Playing in group / on own *Listening to group discussion *Talking to one person / to group *Self-reflection/thinking	✓		Nominal – dichotomous	Please tick ONE box which best describes your event.
Q6 Timing of event	✓		Interval	Please mark an X on the timeline roughly when this event happened in the session.
Q7 Why event was important		✓	Free response	Why was this event important for you?
Q8.1 Importance of Music	✓		Nominal – dichotomous Present/absent Important/not important	Was music playing during your event? If yes, was this important?
Q8.2 Importance of Music Therapist	✓		Nominal – dichotomous Present/absent Important/not important	Was the music therapist involved during your event? If yes, was this important?
Q8.3 Importance of group members	✓		Nominal – dichotomous Present/absent Important/not important	Was another group member involved during your event? If yes, was this important?

Table 5.3 Final questionnaire domains

5.6 Piloting- method

Piloting of the questionnaire took place on the same wards and sites between 28th May and 17th July 2012. A consecutive series of patients was invited to complete the questionnaire. The candidate visited the wards the day after the music therapy group had taken place and invited those who had attended to complete the questionnaire. Patients who attended more than one session were invited to complete a maximum of four questionnaires if they were happy to do so. Participants completed the questionnaire in a quiet room off the ward wherever possible and were invited to comment on how they found completing the questionnaire and any aspects they found difficult to understand (Ruggeri et al., 1994; Ruggeri et al., 2003). Immediately after meeting, the candidate recorded the time taken to complete the questionnaire, interruptions, evidence of tiredness and loss of concentration. Accuracy of the patients' responses was rated on a 5-point Likert scale ("poor", "moderate", "variable", "good", "perfect"). Accuracy was rated according to how carefully the patient listened to questions, how well they understood the meaning and how thorough and thoughtful they were in rating the items (Ruggeri et al., 1994; Ruggeri et al., 2003). Comprehension was rated for each item on the piloted questionnaires with either "poor", "moderate", "good" or "perfect". A glossary of problematic words was compiled developed based upon the initial responses of patients to assist with later delivery of the questionnaires.

Descriptive statistics were generated for participant characteristics of gender and English as a first language. Descriptive statistics and frequency distributions were plotted for each item of the appraisal scale. Free response items of helpful and unhelpful aspects were analysed using content analysis, and organised thematically by related concepts. Mean scores were calculated for each item of appraisal. The Pearson product-moment correlation was used to check item-total correlation and Cronbach's α was calculated to determine the internal consistency of responses.

Acceptability was assessed by evaluating the number of participants who completed the study versus the number who declined to complete a questionnaire. Time taken to complete the questionnaire, accuracy and comprehension ratings were derived (mean, standard deviation, range). Interruptions, questions and problematic words were subject to content analysis and analysed for frequency of occurrence. The required sample size was estimated for alpha = 0.7 and required N=35 for a 3 item scale (Streiner & Norman, 2008).

5.7 Piloting- Results

Out of a possible 58 patient attendances, 34 questionnaires were completed by 27 patients. Nineteen were male (70.4%) and 10 (30.7%) had English as a second language (table 5.4). It was not possible to see 15 patients due to being discharged (N=3), their mental state on the day (N=3), asleep (N=2), or off the ward (N=7). A total of 8 (14%) patients declined: One did not wish to do so due to English being a second language, no other reasons were provided for declining. One patient took the questionnaire away to complete but did not return it.

	N (%) / Mean (s.d.)	Range
N completed by male gender (%)	23 (67.6%)	
N completed by English first language (%)	23 (67.6%)	
Time to complete questionnaire	4.68 minutes	2-25 minutes
Was music therapy helpful?	4.18 (.999)	2-5
How did you feel after music therapy?	4.12 (.960)	2-5
Did you enjoy music therapy today?	3.88 (1.008)	2-5
Item Total	12.18 (2.443)	6-15

Table 5.4 Description of sample, time taken to complete and mean ratings of items

Of the completed questionnaires, 67.6% were completed by males and 32.4% by participants with English as a second language. The time taken to complete the questionnaire was just under 5 minutes on average, with a range of 2 – 25 minutes. Eight of the 34 assessments were interrupted between 1-4 times. No participants left the assessment early. Evidence of tiredness/drowsiness was only recorded once, whilst loss of concentration during the assessment occurred between 1-5 times during the course of 8 assessments.

5.7.1 Accuracy and comprehension:

Overall accuracy of completion is presented in table 5.5 and was moderate to good (mean=3.79, sd= 1.10; range 1-5). Four assessments were rated as poor or variable, 9 as moderate and 21 as good or perfect. Comprehension was generally good, although 6 participants did not answer the free

response question of what was most helpful, and 13 did not provide an answer for the least helpful aspects of the session.

	Comprehension:		Frequency of comprehension score (%)					
Item	Mean (sd)	Range	Not answered	Poor	Variable	Moderate	Good	Perfect
Did you find music therapy helpful?	4.65 (0.77)	2-5	0	0	1 (3%)	3 (9%)	3 (9%)	27 (79%)
How did you feel after music therapy?	4.74 (0.93)	0-5	1 (3%)	0	1 (3%)	0	2 (6%)	30 (88%)
Did you enjoy music therapy today?	4.71 (0.80)	2-5	0	0	2 (6%)	1 (3%)	2 (6%)	29 (85%)
Most helpful	3.91 (1.91)	0-5	6 (18%)	0	2 (6%)	0	3 (9%)	23 (68%)
Least helpful	2.68 (2.28)	0-5	13 (38%)	0	1 (3%)	5 (15%)	1 (3%)	14 (41%)

Table 5.5 Accuracy and comprehension of items

5.7.2 Problems encountered and problematic words:

Few problems were encountered overall. Eight participants asked the researcher to read questions out. Three had problems with their eyesight whilst two stated their English was not that good. One participant had difficulty committing his answers to the Likert options, whilst one answered multiple options. Two participants declined to complete the free responses as writing was too difficult, although one consented to the researcher writing responses on their behalf. Three were unable to think of an answer to these free response questions whilst two commented on potential negative experiences verbally but did not write this down. The most problematic words were 'helpful' and 'unhelpful', which some participants stated they could not understand. One participant suggested 'like' or 'didn't like' as analogous examples. One participant did not understand how feeling better or worse could be related to music therapy.

5.7.3 Frequency of endorsement and item discrimination:

Frequency of endorsement is displayed in table 5.6 and frequency distributions in figure 5.2. The lower extreme on all scales was not used, resulting in a range of scores from 6 to 15. The proportion of participants selecting response options to each item was calculated to determine which items

were most frequently endorsed. Endorsement rates were above .05 and under .95 for all responses but the lowest negative items had low endorsement (*p* [range] =.06-.09).

	Endorsement frequency of response				
Was music therapy helpful?	Extremely unhelpful 0.00	Mostly unhelpful 0.06	Mixed 0.24	Mostly helpful 0.18	Extremely helpful 0.53
How did you feel after music therapy?	Much worse 0.00	A little worse 0.06	The same 0.21	A little better 0.27	Much better 0.44
Did you enjoy music therapy today?	Not at all 0.00	Not much 0.09	Quite a bit 0.29	Very much 0.27	A great deal 0.35

Table 5.6 Frequency of endorsement for each item

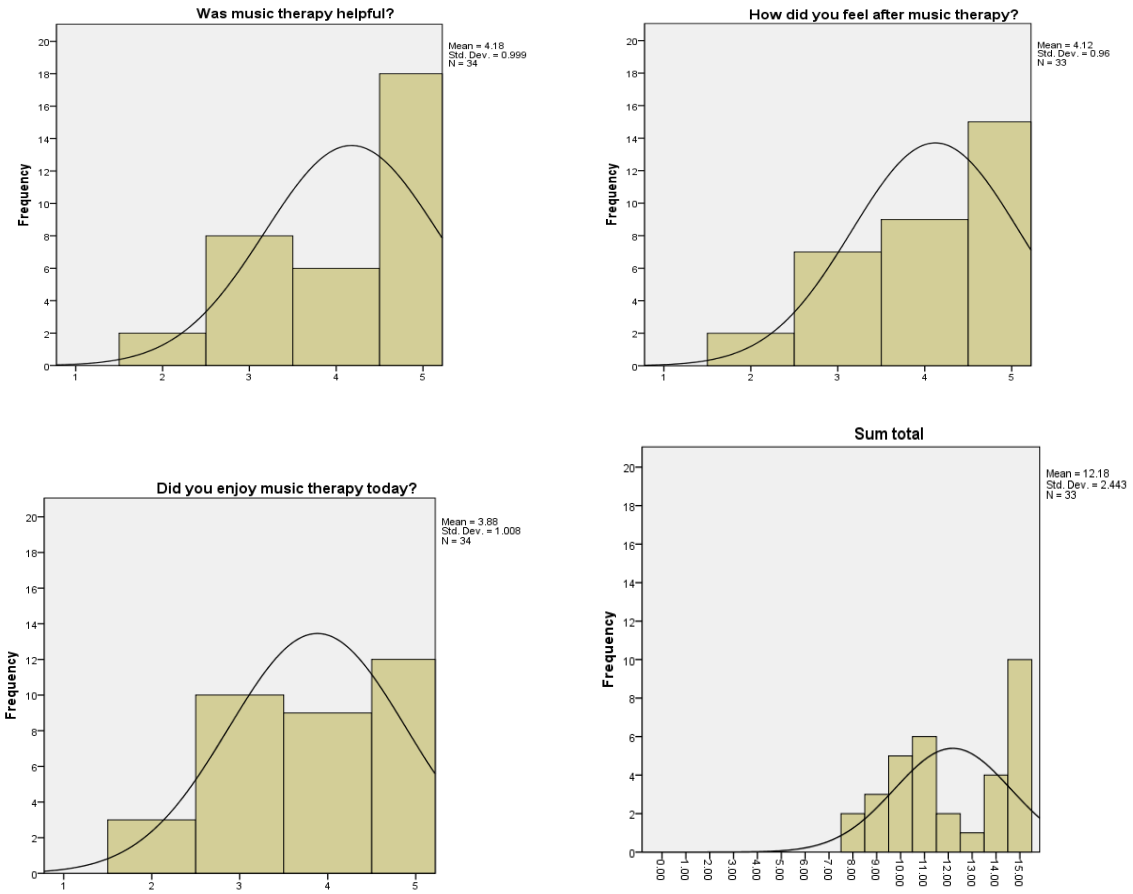


Figure 5.2 Frequency distributions of item responses

The ability of individual items to discriminate between high and low appraisals was assessed using the discrimination index and are presented in table 5.7. Items that were strongest indicators of high appraisal were the highest extremes of the rating scale. Medium low, neutral and medium high ratings were associated with lower appraisals.

	Low rating	Medium low	Neutral	Medium High	High Rating
Item / score	1	2	3	4	5
Helpfulness	0	-0.13	-0.50	-0.25	0.813
Feeling better	0	-0.06	-0.38	-0.44	0.813
Enjoyment	0	-0.19	-0.56	0	0.688

Table 5.7 Discrimination index scores for individual item responses
((N people with above median score selecting item – N people with below median score selecting item) / N people above/below median).

5.7.4 Homogeneity of items:

Homogeneity of items was assessed using the Pearson product moment correlation (table 5.8). Items were all correlated with r>.20, therefore the scale is congeneric (Streiner & Norman, 2008).

	Was music therapy helpful?	How did you feel after music therapy?	Did you enjoy music therapy?
Was music therapy helpful?	1.000	.402	.568
How did you feel after music therapy?	.402	1.000	.559
Did you enjoy music therapy?	.568	.559	1.000

Table 5.8 Inter-item correlation matrix

5.7.5 Reliability and standard error of measurement for total score.

Reliability was assessed using Cronbachs α and confidence interval (table 5.9). The confidence interval was calculated using Feldt's formula (1965; Streiner & Norman, 2008). A value of α> .7 was considered 'good' for a scale with less than 7 items and less than 100 participants (Ponterotto & Ruckdeschel, 2007; Streiner & Norman, 2008) which the scale achieved (α = .758; 95%CI: 0.608 – 0.859). As all the scale items were correlated with one another and had similar variances (.998, .922, 1.016), the scale may be considered tau (τ) equivalent, therefore this should be considered an upper estimate of scale reliability (Streiner & Norman, 2008).

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Was music therapy helpful?	8.03	3.030	.552	.333	.716
How did you feel after music therapy?	8.06	3.184	.543	.323	.725
Did you enjoy music therapy?	8.27	2.705	.673	.453	.573

Scale Mean	Scale Variance	Scale Standard Deviation	N of Items	Cronbach's α	Cronbach's α based on standardised items
12.18	5.966	2.443	3	.758	.757

Table 5.9 Item reliability and final statistics for the appraisal scale

5.8 Final questionnaire

The final questionnaire is presented in Appendix C. The scale has good internal consistency and was generally acceptable to patients, with only 14% declining to complete one. The piloting demonstrated that the scale was quick to complete and generally easy to understand. The words 'helpful' and 'unhelpful' were most difficult for patients, but with explanations, participants felt able to rate this. The overall scale was highly skewed and demonstrated an end aversion bias in that the extreme negatives were rarely used, resulting in a ceiling effect. Whilst this could have been mediated with addition of further items to the scale, overall, this had to be balanced with the aim to keep the scale as brief as possible. As the mean inter-item correlation was greater than .25, the overall skewness should not be a problem (Bandolos & Enders, 1996; Enders & Bandolos, 1999; Feldt, 1993). Given the bimodal distribution of the total score, and the median score of 12, it was decided to take scores of up to 12 as a negative appraisal, and scores of 13 and above as a positive appraisal of the group. The piloting also informed the candidate regarding challenges that may be faced in the later prospective study. Participants had varying levels of literacy, spoken English, levels of concentration and degree to which they felt able to discuss negative aspects of their experiences. The piloting demonstrated that it was possible to assist participants by reading the questions out and writing down free responses verbatim, then checking with the participant that they were happy with the response. The scale is suitable for use with acute adult psychiatric inpatients, and should provide an overall assessment of their experiences and appraisal of this when attending group music therapy.

CHAPTER 6

Building a model

Identification of group music therapy methods and processes in acute inpatient settings

6.1 Introduction: Modelling of group music therapy processes and outcomes within the contextual model

The systematic review presented in chapter 3 identified that whilst there were many clinical theoretical papers regarding the purpose and provision of group music therapy in acute inpatient settings, few empirical investigations have been undertaken to ascertain the exact methods and processes involved. The framework identified in the review suggested that features of music therapy which may play an important role for this context included the frequency of therapy sessions, active structured music making with verbal discussion, consistency of contact and boundaries, an emphasis on engaging and building a therapeutic relationship and building patient resources. Outcomes from randomised controlled trials, suggest a particular role for active music making whilst the analysis by Mössler et al. (2012) suggests a particular function of pre-composed music. The study by Mössler et al. is one of the first to assess the role of music therapy techniques from a manualised intervention of resource-oriented music therapy. A strength of the study is the analysis of data from a pragmatic randomised controlled trial, yet the study is limited in that the intervention looked only at individual music therapy and relied upon therapist self-report, thus missing features of group music therapy, an objective assessment of sessions and viewpoints of the patients who took part.

As noted in chapter 4, the contextual model of psychotherapy may provide a means of disentangling the therapeutic effects of a complex intervention by considering features that are shared across, or unique to a particular therapy whilst accounting for characteristics of patients and therapists. A unique feature of music therapy is the use of active music making, whilst a shared feature is the development of a therapeutic relationship. The extent to which such features can be disentangled is debatable, as commonly music therapists seek to build and shape their relationships with patients through the co-creation of music. Music may therefore be a mediating factor for development of the therapeutic relationship, the most important feature shared across all psychotherapies and accounting for up to 25% of outcome (Horvath & Bedi, 2002; Martin et al, 2000). As noted in chapter 4, Pavlicevic & Trevarthen (1989) noted particular levels of musical interaction with patients with specific psychiatric diagnoses, leading to development of the Musical Interaction Rating Scale for Schizophrenia (1995; 2007). In the Netherlands, De Backer (2006) has also identified features of the musical process specific to working with patients with psychosis, in particular the change from

'sensorial play', where music is created without shape or connection to the therapist, to 'musical form' where a musical dialogue within a co-created musical structure becomes possible. Both of these therapists undertook detailed microanalytic examination of musical interactions, but only in an individual therapeutic context. Whilst there are many theories regarding how music therapy might work for a range of clinical diagnoses, to date, there has been no examination of what happens within a group context in acute psychiatric inpatient settings nor of the extent to which these processes are associated with outcomes.

Whilst literature is abundant regarding therapist views on important therapeutic processes, there are few studies that have explored features of importance from the patients' point of view. Within the contextual model of psychotherapy, client characteristics, such as expectancy that the treatment will be beneficial, motivation for treatment and expectations of what will happen may account for 15% of therapeutic change (Lambert, Norcross & Goldfried, 1992). An additional 40% of change may be attributed to 'extratherapeutic' factors such as social support, the patient's ego strength and environmental factors outside of and regardless of the therapy itself.

In line with the research questions of this thesis (chapter 2), this study therefore sought to build a model of group music therapy processes and outcomes accounting for both unique features of music therapy and features shared across psychotherapies. In addition, the model aimed to account for both patient and therapist experiences, with a focus upon the processes experienced by patients.

6.2 Philosophical approach

As described in chapter 4, the research methods chosen for this enquiry stemmed from psychotherapy change process research, where qualitative reports from patients and therapists are linked to observations of the therapy itself and a range of quantitative and qualitative outcomes. A tenet of this method is the 'significant events' approach which postulates that events within therapy most likely to contain the effective ingredients of change are those which are deemed as significant by the patient and/or therapist (Elliott, 2010). Patients and therapists record events deemed as significant during the session, which are then linked to the content of the session itself and both qualitative and quantitative patient outcomes. Such an approach utilises mixed methods and intertwines features of constructivism, that is the belief that knowledge, understanding and meaning of a phenomenon are constructed by individuals and shaped by their experiences and social interactions; and post-positivism, that knowledge is created by reduction of phenomena and can be

quantified to study cause and effect. Within mixed methods research, the worldview of pragmatism has emerged to describe this duality, which acknowledges both singular and multiple realities co-exist and seeks to answer research questions from both multiple and singular angles (Cresswell & Plano-Clark, 2011). The epistemology of such an approach stems from practicality; data is collected according to what will best answer the research question in hand, whilst the axiology implies that the researcher must both take an objective and subjective stance within the research, depending on the nature of the data collected and means of analysis. Such reflexivity may be argued as being a more extreme case of that which is required in qualitative analysis alone and requires the researcher to adjust their position according to the data being analysed. The candidate took this pragmatist stance throughout the conduct of this research and as such employed methodology to fit the data in hand (quantitative/qualitative) at each stage.

The positivist approach to quantitative data requires objectivity of the researcher and minimisation of all possible influencing factors and biases. Within qualitative research, it is acknowledged that such biases are present throughout the research process, and will contribute towards the final synthesised product, primarily through the pre-existing experiences and views of those involved in the research. It is therefore important to note the pre-existing stance of the candidate and those factors influencing the research that was conducted. The candidate's own background and training in an improvisational and psychodynamic model of music therapy will be an influencing factor in the analysis. Similarly, the clinical experience as a music therapist with extensive experience in acute psychiatric settings was the motivating factor for this research project therefore analysis was undertaken with the belief that music therapy has an important role to play within acute psychiatric hospitals. Steps to minimise bias can be taken by employing a multidisciplinary team throughout the research to provide a range of differing theoretical stances, experiences and perspectives to enhance validity and replication and measures of reliability of the data analysis. Whilst it was not possible to utilise a large team in the context of this doctoral study, assistance was provided by a music psychologist (EE) in aspects of the data analysis and progress was presented regularly at meetings of psychologists and psychiatrists within the candidate's academic department where the emergent ideas and findings were debated and discussed.

6.3 Aims and objectives

Corresponding to the first aim of this thesis, this study sought to describe the content and processes of group music therapy. In line with the significant events approach, this begins with an exploration of the experiences of patients and therapists within group music therapy sessions in order to build a theory of processes of importance within therapy and the specific features of the session that are associated with these.

The first aim of this study was therefore to identify features of group music therapy experienced as significant by patients and therapists and the possible processes that these represented. In particular, to identify:

a) Events of importance to patients and therapists within group music therapy and reasons why this is so
b) Helpful and unhelpful features of group music therapy as experienced by patients
c) Reflections on change and patient attributions for this at the end of therapy

In a second step of the significant events approach, features hypothesised as important are then examined against video data of the session itself, along with further characteristics of the therapy. The second aim of this study was therefore to describe how music therapy sessions were provided in practice. In particular, to identify and quantify:

a) The clinical methods and activities used by music therapists
b) The extent to which music and speaking are used in sessions
c) The musical characteristics of group playing identified as important to patients and therapists

Within the Medical Research Council framework for developing complex interventions (2008), this study was the first step in building a model of the group music therapy sessions themselves and provided the data with which to evaluate associations between processes and outcomes. This evaluation will be presented in the following chapter in order to address the third and final aim of this thesis.

6.4 Methods

6.4.1 Design

This study was a prospective longitudinal cohort study of patients receiving group music therapy whilst admitted to hospital for treatment of acute psychiatric symptoms. The study employed repeated mixed quantitative and qualitative outcome measures, video microanalysis and end of therapy in-depth interviews. Patients were followed over the course of music therapy for the duration of their hospital stay, with outcome measures taken after every session.

6.4.2 Inclusion and exclusion criteria

Patients were included in the study according to the following criteria:

- Capacity to provide informed consent
- Age 18 -65
- Currently admitted to and receiving treatment on an acute psychiatric ward for non-organic mental disorder (F00-F09, ICD-10 excluded)
- Basic command of English language
- Wish to participate in group music therapy

Patients were excluded if they had no comprehension or understanding of English language, which would prevent them from completing questionnaires, or if they were assessed as lacking mental capacity to consent to procedures at any stage.

6.4.3 Sample size calculation

A sample size calculation was performed based on criteria for the quantitative analysis in the second stage of this study and is presented in full in the following chapter and Appendix D. In total, it was aimed to recruit 150 patients over the course of 6 months in order to ensure adequate power to calculate associations between variables in the quantitative analysis whilst accounting for attrition and potential missing data.

6.4.4 Setting and groups available to patients

The study took place over three hospital sites within East London Foundation NHS Trust over six acute adult inpatient wards. Three of the wards were mixed, whilst two were male only and one was female only. One male only ward was for the acute treatment of men under assertive outreach teams, and therefore consisted of patients with a history of difficulty engaging with services. Wards were designated as open but four of these were usually locked due to absconding or other risks. One ward had a seclusion room which was used with patients across the wards on that hospital site. All three hospitals had a range of arts therapies, psychological and occupational therapy programmes as well as a range of activities provided on the ward which patients could access whilst admitted.

Across all three sites, group programmes were provided primarily by ward activity workers, occupational therapy, arts therapies and psychology departments. An example group timetable is provided in table 6.1. Group programmes were usually provided on weekdays between the hours of 9am and 5pm and were held both on and off the ward. Some groups were available on weekends, mostly coordinated by the activity workers for that specific ward. Ward activity workers would coordinate art and relaxation groups, movie nights and use of games consoles. Within these groups, the focus was upon provision of materials and encouragement to use these for the activity in question. Occupational therapy groups included groups for relaxation, personal grooming, physical exercise, cooking and creative activities such as art and craft groups, music appreciation (listening to selected music) and music technology (such as DJ skills and recording). Art and dance movement therapy were available across all 3 sites, whilst one site also had a drama therapist. Psychology groups were mostly talking based groups and included ‘tree of life’ groups, emotional coping skills, hearing voices groups and recovery focused groups.

In addition to the group programmes, clinical activities of ward round, individual contact time with nurses and ward community meetings occurred throughout the week along with designated times to receive medication.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
10:00-13:00 **Welfare clinic (NS)**	**10:00-14:00** **Ward round** 9:00-16:30 1:1 Recording studio (OT)	**9:30-10:15** **Community meeting (OT/NS**) 9:00-16:30 1:1 Recording studio (OT)	**10:00-14:00** **Ward Round**	**9:00-12:00** **Vocational advice (NS)**	**Physical health checks (NS)**	**Cooked breakfast (NS)**
10.30-11.30 **Last week, this week, next week (AW)** 10.30-12.30 Pottery (OT)	**10:00-11:00** **Art/Music Group (AW)** **11:00-12:00** **DJ Skills (OT)**	**11:00-12:00** **Dance Movement Psychotherapy (AT)** 10:30-12:00 Swimming (OT)	**10:30-11:30** **Reading together (AW)** 11:00-12:00 Gym (OT)	**10:30-11:30** **Keeping in touch (AW)** 11:00-13:00 Lunch cookery (OT)	**11:00-12:00** **Music Therapy (AT)**	**10:00-11:00** **Bingo (AW)**
13:00-14:00 **Men's group (AW)** 13:00-14:00 Art Work shop (OT)	**14:30-15:30** **Art Therapy (AT)** 13:00-16:30 Out and about (OT)	**13:30-14:30** **Music Therapy (AT)** **15:00-16:00** **Recovery group (Psychology**)	**13:00-14:00** **Identity Group (AW)** 13:00-15:00 Cycling (OT)	**14:00-15:30** **Newsletter editorial group (OT)**	12:00-18:00 Social club (OT)	
15:00-16:30 **Arts and crafts (OT)** 14:30-16:00 Football (OT)	**14:30-16:30** **Men's grooming (OT)** **15:45-16:45** **Emotional Coping Skills (Psychology)**	**16:00-17:00** **Dance Group (OT)** 15:30-18:00 Cookery (OT)	**14:30-15:30** **Art Therapy (AT)** **15:45-16:45** **Relaxation group (OT)**	13:00-16:00 Badminton/gym (OT) 13:30-16:00 Canoeing/Narrow boating (OT)		
18:30-19:30 **Music therapy (AT)** 17:00-20:00 Social club (OT)	**17:00-19:30** **Film night**	17:00-20:00 Social Club (OT)		**19:00-21:00** **Film Night**	**19:00-21:00** **Film night**	**19:00-21:00** **Film night**

AT- Arts therapies; AW- Ward activity worker; NS- Ward nursing staff; OT- Occupational therapy. Activities taking place on the ward are highlighted in bold.

Activities not in bold took place off the ward.

Table 6.1 Example ward group timetable

6.4.5 Procedure

Ethical approval was granted for this study on 3rd September 2012 by the North of Scotland Research Ethics Committee (see Appendix E for documentation). The study took place for 28 weeks between November 2012 and April 2013, with recruitment ending after 24 weeks. Patients were selected for the study based upon their admission to an acute inpatient psychiatric ward on three sites within East London Foundation NHS Trust. A summary of recruitment procedures is shown in figure 6.1. Patients identified by ward staff as potential referrals to music therapy met with the music therapist to inform them of music therapy and the study. If they were interested in participating, they were provided with an information sheet and introduced to the current candidate as the researcher. The candidate met with the patient to go through the study information sheet and provided an opportunity to ask questions. The purpose and nature of the research was explained along with measures to protect confidentiality, clarify expectations and find out if they were still willing to participate. Patients were encouraged to speak with others if they were unsure and to ask questions. If they wished to participate, informed consent was then obtained after a minimum of 24 hours. Patients were assured that participation would not have any impact upon their care and that they were free to withdraw from the study at any time. After obtaining consent, the candidate then completed baseline measures, or arranged a convenient time to do these at a different time if the participant required. The participant information sheet and consent form can be found in Appendix E.

Mental capacity was assessed at every meeting with the patient, based upon guidelines developed by the British Psychological Society (Dobson, 2008; see Appendix E). The assessment was based upon criteria of enabling capacity, evidence of impairment of mind and a functional assessment. The assessment consisted of demonstrating understanding they are free to choose to take part or not, understanding of the research taking place, demonstrating ability to weigh up the risks and benefits of taking part and communicating their decision. If any one of these criteria was not met, this was explained to the participant and they were offered a meeting at a later point to re-assess capacity if they wished.

Following baseline measures, the candidate then met regularly with participants to complete process measures. This was initially scheduled as a weekly visit, but after an audit of data collected in January 2013 and patient feedback, it became clear that more frequent visits to each of the wards would be required. The amount of data collected was not in line with the number of assessments required for later analysis, due in part to patients being on leave or attending other groups when the candidate visited the ward. Some visits coincided with ward round, which meant that some patients felt unable to meet due to anxiety of missing their

scheduled appointment. Patients had also fed back to the candidate that recalling music therapy sessions, even a couple of days later, was difficult and many expressed a preference to meet immediately after the session had finished. The candidate therefore scheduled visits to happen half an hour or so after the group over two of the sites wherever possible, but continued to schedule meetings flexibly with patients, rearranging assessments for a later time if the participant wished to do so. For the third site, it was agreed at the start of the study with the music therapist and ward that meetings with patients would happen the day after the group had taken place and this continued for the duration of the study.

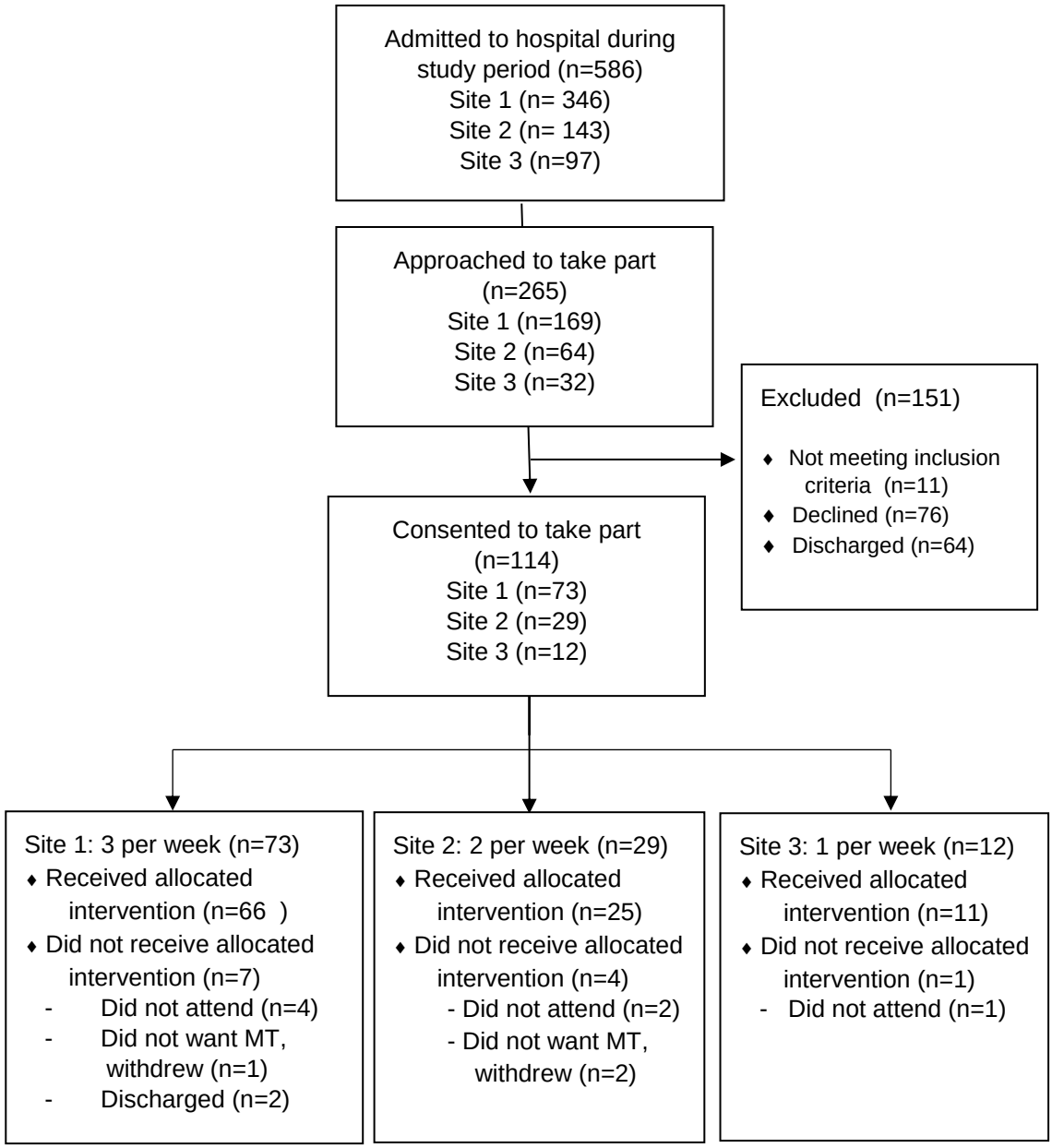


Figure 6.1 Flow diagram of participants recruited into the study

6.4.6 Intervention

Group music therapy was provided between one to three times per week. Two sites offered sessions in a group room on the wards of each hospital, whilst a third provided an off-ward group, covering two wards in a group room in the occupational therapy department. The differing frequencies were chosen pragmatically to fit with the existing service configuration.

One site offered group music therapy in an open group format on the ward once a week. The second site offered group music therapy in a semi-closed group, off the ward, covering two wards, twice a week. This group was co-run by two music therapists to allow for patient escort to and from the group if required. The third site had three groups run on the ward three times per week by three different music therapists. The groups were semi-closed and took place during weekday hours, evenings and once on the weekends. Participants were encouraged to attend by the music therapists but were free to choose not to. Participants had access to all other treatment and usual care, including access to other arts therapies, psychological and occupational therapy groups alongside medication.

Rooms were arranged so that chairs were in a circle and a selection of musical instruments were provided. A video camera was also set up in the room. The range of instruments available varied between sites, but all included at least one keyboard, guitar, melodic percussion (eg. xylophone), large and small rhythmic percussion (eg. djembes, maracas) and instruments from a range of different cultures (for example, tabla, doumbek, djembe, singing bowls and kalimbas).

Group Music Therapy Procedure

The music therapy groups followed existing UK music therapy practice, in that the music therapists ran the groups as per their clinical experience. All music therapists were qualified and registered with the Health Care and Professions Council and received regular clinical supervision. Sessions were scheduled to last for one hour and had a rolling group format. The use of music and speaking within the groups was determined by the therapist, as were the theories underpinning their practice.

Different types of musical activity were provided flexibly and included combinations of active music making or receptive music listening. Within the UK, there is a particular emphasis upon the use of active musical improvisation by both therapist and patients. However, precomposed music might also be used, as might singing, listening to others play or listening to pre-recorded music. The structure of the group could also vary and could include general opening activities such as warm up activities, introductions to group members and use of the instruments,

closing activities to bring the group to an end, therapist directed activities for a particular therapeutic purpose (for example, providing musical rules or limits for playing together, or a theme to improvise upon) or patient directed activities whereby the therapist would follow patient preferences in playing music or topics of discussion.

Within active music making, the therapist would employ clinical improvisation techniques to meet the playing of both the group as a whole and of individuals, provide musical cohesion and to highlight, encourage or extend an aspect of the music. Such techniques include mirroring, imitating or copying an aspect of the music played by the patient, matching the musical components of the patients' music, providing an empathic musical response to the emotion conveyed within the patients' music and reflecting this back, providing a stable musical ground through pulse, rhythm, chord sequences or ostinato as a means of 'holding' the patients' music or 'containing' more chaotic or unstable playing, providing a musical dialogue (as in a melodic question and answer, or turn taking), accompaniment and providing musical and gestural cues to encourage continuation, cessation or a change in the music. When active music making is sustained, the therapist may draw upon a particular musical idiom or style, provide a musical framework to begin or develop musical structure (for example, returning to a previous musical theme or tempo) or develop a new structure from an existing framework if pre-composed music is being used (Wigram, 2004). Verbal discussion would also be used flexibly and could include discussions about experiences, thoughts, feelings and reflections arising from making music, interactions between group members, individual issues and issues outside of the music therapy group.

Sessions were recorded on a digital video camera for microanalysis by the candidate. At the end of the session, the files were transferred onto a password protected and encrypted hard drive and then imported into ELAN linguistic video analysis software (v.4.6.2 Max Planck Institute, 2013; Wittenburg et al., 2006).

6.4.7 Measures

A range of quantitative and qualitative measures were taken for the purposes of this study and the ensuing quantitative analysis. Measures pertaining to the current study described in this chapter are outlined below, whilst further measures taken for the quantitative study are described in the following chapter and presented in Appendix F. Four sets of data were collected: patient and therapist questionnaires, video recordings of the sessions themselves and end of therapy interviews with patients. All patient reported measures were completed by participants with the candidate. Therapist reported measures were completed by music

therapists at the end of sessions and given to the candidate in either written or electronic form at regular intervals.

6.4.7.1 Patient measures

Socio-demographic and clinical information:

Clinical and socio-demographic details of age, gender, diagnosis according to the World Health Organisation international classification of disease (ICD10; WHO, 2010), number of days in hospital, length of illness and first language were recorded from participants' clinical records after consent was obtained. If participants were transferred out of their ward during their hospital admission, the date of leaving, and where applicable, return to the ward was recorded.

Experiences of music therapy questionnaire:

As no validated measures of patient experiences of music therapy existed, a questionnaire was developed for the purposes of this study. Steps in the development of this questionnaire are detailed in chapter 5 of this thesis. The questionnaire was initially completed weekly with participants. As described above, the candidate increased the frequency of visits to wards receiving music therapy more than once a week in response to difficulty following up patients and participants' suggestions of meeting immediately after the music therapy session. This resulted in some patients completing measures more than once a week. Measures were completed only if the participant wished to and had the capacity to do so. In cases where participants were unable to or unwilling to write their responses, the candidate offered to conduct the assessment as a semi-structured interview, recording participants' verbal responses verbatim and checking this was correct with participants. In many cases this resulted in greater detail regarding participants' experiences of sessions. The candidate also recorded field notes from these meetings which noted any events of significance that had happened on the ward or any further details the participant chose to give regarding their experiences.

The 'Experiences of Music Therapy' questionnaire measures patient appraisals of the session with three questions rated on Likert scale 5 item responses. Responses are summed to provide a total appraisal score which can range between 3 and 15. As described in chapter 5, piloting of the questionnaire resulted in a mean score of 12.18 and a bimodal distribution where scores of 12 or below could be taken as a negative appraisal, and scores of 13 and above as a positive appraisal. Internal consistency of these three items was good with Cronbach's α=.758. The

concepts assessed are 1) Did you find music therapy helpful? 2) How did you feel after music therapy? 3) Did you enjoy music therapy? These questions were then followed by free response questions to detail their experiences in terms of the most helpful and unhelpful aspects, the most important event in music therapy, why this event was important and how this event was defined in terms of the activities taking place. Further dichotomous responses, in the form of tick boxes detailed who was present during the event (music therapist, other group members) and whether their presence was important to this experience. A further item was a visual analogue timeline for participants to mark roughly when the event happened in the context of the session.

End of Therapy Interviews

Participants were offered an end of therapy interview on ceasing group music therapy attendance. Most commonly this was due to discharge from hospital, although for one participant, this occurred after withdrawing from the music therapy group. The interview was semi-structured and conducted in a location convenient for the participant. In many cases this was the hospital they had been admitted to, although some preferred to meet in a neutral location at the candidate's offices based at one of the hospital sites. Interviews were conducted in a quiet room off the ward and recorded on a digital audio recorder. The interview was conducted according to the 'Client Change Interview' protocol (Elliott, 1999) an interview designed to explore change processes within psychotherapy and attributions for change. The interview explores eight areas of general experiences of therapy, self-description, changes since starting therapy, rating of changes, attributions for change, helpful aspects of therapy, problematic aspects and suggestions for the future. Two additional questions were included for the purposes of this study asking the participant to describe other groups they had attended whilst in hospital, particularly those with a music component and their views regarding the frequency of therapy. The purpose of these questions were to gain information on participants' general experiences of groups and music whilst in hospital and to obtain views on the frequency of therapy in terms of understanding the acceptability of increased frequency. Responses in this chapter are presented from the interview as a whole, whilst views regarding frequency of therapy will be presented in the analysis of attendance and frequency data in chapter 7.

The candidate conducted all interviews, beginning with an explanation of the purpose of the interview. As many of the participants had no experience of taking part in research interviews, the candidate took time to explain her own role as researcher, how the conversation might differ from a normal conversation, how the data would be stored and used and to remind

them that they could stop at any time and did not have to answer a question if they felt uncomfortable doing so. Questions were asked according to the interview schedule which utilised funnelling to begin with warm up questions and then to focus in upon general and then more specific experiences of music therapy itself (Legard, Keegan & Ward, 2011). The candidate sought to ensure follow-up questions were asked in a balanced and non-leading way and used prompts and probes to elucidate further information or explanation of ideas. At the end of the interview two final questions were asked to see if participants had anything further to say about their experiences of music therapy or of taking part in the research as a whole.

Interviews were transcribed by the candidate as soon after the interview as possible and transcripts were imported into NVivo software (v.10 QSR International, 2013) for qualitative analysis.

6.4.7.2 Therapist measures

The music therapists providing the groups in this study all completed a therapist version of the 'Most Important Event' questionnaire. The form was designed to be quick to complete and a means of obtaining information on participant attendance, reasons for non-attendance and events deemed as significant or important by the therapist. The form was piloted with two of the music therapists in the current study prior to data collection. Further domains to explain reasons why the event was important, the participants' activity at the time and an indicator of when the event happened were included. The music therapists completed the form after every session and these were then imported into NVivo qualitative analysis software along with patient questionnaires and interview transcripts.

6.4.7.3 Video recording of music therapy sessions

Consent for video recording was provided as part of the process of obtaining informed consent. All music therapy sessions were video recorded onto memory cards on a digital video camera. Cameras were set up by therapists on two sites, and set up by researchers from within the candidate's research group (SO, SW) prior to the music therapy group commencing on the third site. The candidate assisted with set-up of video recording for one ward on the first site. Cameras were placed in a location that was as unobtrusive as possible in the music therapy room, in a position where it would be possible for some participants to sit without being in full view of the camera. This was felt to be important in case participants felt uncomfortable being seen in full view. As the purpose of video recording was primarily to be able to identify the

player of a particular instrument and changes of instrument, full view of participants was not required. Recording failed in four sessions due to the camera or power supply not being switched on. After three months, one group was audio recorded rather than video recorded due to the disruption of turning the camera on and off as non-research participants came into the group. This resulted in six audio recordings used within the analysis.

6.5 Research aim 1: Analysis- Identification of features and processes of group music therapy experienced as significant by patients and therapists.

Analysis was completed in two stages and utilised thematic analysis within the framework approach. The framework approach was developed by researchers in the field of social sciences as a means of managing qualitative data analysis from large datasets such as surveys. The epistemological stance taken by proponents of this approach is closer to the positivistic scientific worldview, in that the researcher strives to maintain objectivity and neutrality throughout data collection, interpretation and presentation, attempts to minimise personal biases and influence on views of others and strives for reliability and validity in the application of research methods and reporting of results (Snape & Spencer, 2003). The approach is both pragmatic and interpretative and therefore is concordant with the overall mixed methodology employed throughout this enquiry.

Given the large quantities of data collected, framework central and thematic charts were constructed to summarize important events reported by both participants and therapists. Components of these events were summarized in one column and then coded, with codes created for every new feature that appeared. Initial codes were categorized by the type of activity that occurred, group and individual processes, content of discussions and meanings ascribed to the event. Helpful and unhelpful aspects of therapy were coded separately and later combined into the wider categories of experiences.

End of therapy interviews were coded separately, first by question area and then by subject specific themes within the interview. Views on the frequency of therapy were coded into a separate folder to aid analysis of the acceptability of increased frequency in chapter 7.

Broader principles of thematic analysis were then employed to reduce existing codes into categories of similar concerns (Braun & Clark, 2006). Following from Braun and Clark, the purpose of this thematic analysis was to gain a “contextualist” overview of objective events, whilst acknowledging the variety of ways individuals ascribed meaning to these. Analysis

initially began on a semantic level, seeking to create groups of data that were linked and grounded within the context of what had been said by the participants and therapists. After grouping and analysis of all sets of data (questionnaire and interview), latent themes were then defined by grouping similar or overlapping concerns together, with the purpose of ascribing interpretative meaning to the processes as they were described over time by participants and therapists. Such an approach provides the beginning of theory development (Braun & Clark, 2006) which is in keeping with the aims of this stage of the study. The candidate coded and interpreted the entire dataset, whilst a music psychologist (EE) coded a random subsample of 50% of the questionnaires. Regular meetings were held to discuss the development of coding categories, areas of agreement and disagreement and insights regarding theoretical and interpretative ideas. Questionnaires were then re-coded by the candidate based upon the consensus reached. Meeting notes were recorded and imported into NVivo as analytic memos, which were then referred to in the interpretative stages of analysis.

A video coding framework was then designed based upon core themes from the questionnaire data. Coding categories were designed to be as objective as possible to ensure replicability and refined after piloting of 10 videos. Video coding was done jointly between the candidate and music psychologist (EE) with 25% of sessions jointly coded by both to ensure reliability of coding. Throughout the video coding regular meetings were again held to check consistency of coding patterns, refine the objective definitions where inconsistencies were found and share insights arising from the sessions themselves. These were recorded by the candidate in meeting notes and summary memos of the sessions, which noted in particular, core interactions between participants and therapist. The resulting video coding was then exported into Microsoft Excel and imported into Stata (v.13.0, Statacorp) for quantitative analysis.

6.6 Research aim 1: Results

6.6.1 Sample description

In total, 114 participants were recruited into the study. Flow of participants is summarised in figure 6.1, whilst socio-demographic and clinical characteristics are summarised in table 6.2. Of the 114 participants recruited, 73 were offered music therapy 3 times per week (64.9%), 29 twice per week (25.4%) and 11 once per week (9.6%). The majority of participants were male (n=72, 63.2%) and 90 (78.9%) had English as a first language. Eighty-four participants left the study due to discharge (73.7%), 5 withdrew (4.4%) and 25 remained in hospital at the end of the study period (21.9%).

	Total (N=114)	**1pw (N=12)**	**2pw (N=29)**	**3pw (N=73)**
Number of appraisal responses	400	14	95	291
Male gender (%)	72 (63.2%)	9 (75%)	17 (58.6%)	46 (63%)
Mean age (range, s.d.)	37.09 (18-65, 11.9)	32 (21-54, 9.8)	37.45 (23-58, 10.0)	37.78 (18-65, 12.8)
English first language (%)	90 (78.9%)	9 (75%)	23 (79.3%)	58 (79.5%)
Reason for leaving (%) 1. Discharge 2. End of study 3. Withdrew	 84 (73.7%) 25 (21.9%) 5 (4.4%)	 11 (91.0%) 1 (8.3%)	 19 (65.5%) 7 (24.1%) 3 (10.2%)	 54 (74.0%) 17 (23.3%) 2 (2.8%)
N days in hospital (range, s.d.)	89.21 (8-584, 87.61)	67.58 (21-225, 56.27)	125.79 (8-584, 128.09)	78.23 (9-351, 66.66)
N days in hospital before consent (range, s.d.)	42.46 (1-412, 59.94)	25.42 (3-66, 16.54)	65.52 (3-412, 87.72)	36.10 (1-241, 50.03)
N days in study (range, s.d.)	39.67 (1-154, 34.74)	33.17 (7-105, 30.42)	46.62 (5-140, 40.76)	37.97 (1-154, 32.82)
N previous admissions (range, s.d.)	3.33 (0-18, 3.49)	1.67 (0-11, 3.14)	4.9 (0-18, 4.79)	2.81 (0-16, 3.17)
Diagnosis (ICD10)				
Depressive episode	12 (10.5%)	1 (8.3)	2 (6.9)	9 (12.3)
Manic episode	1 (0.9%)	1 (8.3)	-	-
Bipolar affective disorder	30 (26.3%)	4 (33.3)	12 (41.4)	14 (19.2)
Schizoaffective disorder	8 (7.0%)	-	2 (6.9)	6 (8.2)
Schizophrenia	45 (39.5%)	3 (25.0)	13 (44.8)	29 (39.7)
Psychosis unspecified	10 (9.0%)	2 (16.7)	1 (3.4)	6 (8.2)
Substance abuse- drugs	24 (21.1%)	3 (25.0)	8 (27.6)	13 (17.8)
Substance abuse- alcohol	10 (9.0%)	-	2 (6.9)	6 (8.2)
Substance abuse- tobacco	26 (22.9%)	-	9 (31.0)	16 (21.9)
Dissociative disorder	1 (0.9%)	-	1 (3.4)	-
Personality disorder	16 (14.0%)	1 (8.3)	2 (6.9)	13 (17.8)
Adjustment disorder	1 (0.9%)	-	-	1 (1.4)
Anxiety disorder	4 (3.5%)	1 (8.3)	-	3 (4.1)
Obsessive Compulsive	4 (3.5%)	-	1 (3.4)	2 (2.7)
Post-traumatic Stress	2 (1.8%)	1 (8.3)	-	1 (1.4)
Mental retardation	3 (2.6%)	-	1 (3.4)	2 (2.7)
Receptive language	1 (0.9%)	-	-	1 (1.4)

Table 6.2 Socio-demographic and clinical characteristics of sample

In total, 222 music therapy sessions took place. Therapist responses were provided for 217 sessions, whilst a total of 400 'Experiences of music therapy' questionnaires were completed by 95 participants. Of the 400 responses, 14 were from sessions provided once a week, 95 from sessions twice a week and 291 from sessions 3 times per week. Video data was available for 200 sessions. End interviews were completed with 16 participants from four out of the five music therapy groups, and represented participants who had provided both positive and negative average appraisals of sessions. A summary of the characteristics of participants interviewed is displayed in table 6.3.

Age	Gender	Diagnosis	Session frequency per week	Group	Appraisal mean	Appraisal range	N sessions attended
31	F	Schizophrenia	1	1	10.5	8-13	2
25	F	Depression	1	1	12	12-12	5
40	F	Bipolar	2	2	10	10-10	4
33	M	Depression	2	2	11.25	10-12	6
55	M	Schizophrenia	2	2	12	7-15	12
38	M	Schizophrenia	2	2	12.5	10-15	4
43	M	Personality disorder	3	3	12	9-15	6
40	M	Schizophrenia	3	3	12.4	3-15	17
47	M	Depression	3	3	12.5	12-13	2
22	M	Schizophrenia	3	3	12.7	11-15	4
33	M	Schizophrenia	3	3	13.6	10-15	19
37	M	Schizophrenia	3	3	13.8	13-15	33
41	F	Depression	3	4	9	7-11	9
42	F	Depression	3	4	11.8	7-15	9
36	F	Schizophrenia	3	4	14.3	11-15	7
50	F	Personality disorder	3	4	14.5	14-15	2

Table 6.3 Patient characteristics of end of therapy interviews

6.6.2 Significant features of group music therapy

Important events in group music therapy were categorised based upon the type of musical activity, group experience, therapist interventions and content. Activities that occurred within important events and coding frequencies are displayed in table 6.4. Patient and therapist events corresponded in 25% of patient reported events. The most common activities referred to by patients were improvisation followed by singing or rapping, whilst therapists referred to improvisation and talking. Less frequent activities were playing pre-composed music, learning or tuition, listening to another person play, listening to a CD and descriptions of an insight or thought. Within important events themselves, both patients and therapists most frequently referred to musical events, relationships between patients and group events. Patients then tended to refer to musical learning whilst therapists focused upon individual progress, verbal interactions and engagement and motivation of patients.

	Patient Questionnaire	Therapist Questionnaire
1 : Improvisation	182	357
2 : Improvisation around pre-composed music	22	26
3 : Learning or tuition	20	10
4 : Listening to another person play	20	4
5 : Listening to CD	8	10
6 : Lyric writing	1	8
7 : Playing pre-composed music	23	23
8 : Silence	1	4
9 : Singing or rap	66	79
10 : Talking	39	163
11: Insight or thought	20	1
12 : Dancing	8	10
13 : Overlapping event	19	19
14 : Same event	99	101

Table 6.4 Frequency of coding for types of music therapy activity referred to by patients and therapists within their most important event

Three core processes were identified based upon patient and therapist responses to the event: *Engagement through attendance and musical participation*, *Connection to emotions* and *Musical-social processes*, which will now be described. Examples are quoted from patient (PPT) and therapist (Th) questionnaires and longer responses from end of therapy interviews. Session numbers presented after the quotes refer to the session attendance number of the patient, for example 'Session 5' means the fifth session attended by that patient.

Process 1: Engagement through attendance and musical participation

A process which formed the building blocks of later processes and which often occurred at the beginning of therapy, was that of engaging patients in their attendance of sessions and within the musical activities of the music therapy session itself. Patients within this process initially described music therapy as a means of activity, "something to do" and "passing time" with many citing the most helpful aspect of sessions being "enjoyment" or "fun". Corresponding to these processes, therapists focused upon the ability of patients to attend and stay for the duration of sessions:

> PPT64 [unhelpful]: *"I'd rather do it with a nurse 1:1 when I'm bored",* Th2, Session 2

> PPT84 [Why important]: *"Just something to do on the ward, if you're not doing anything. Knowing that there's something to do."* Th4, Session 1

Therapist comments on participants' ability to stay often included their reflections as to why this might be so. Therapists described addressing difficulties with participants where possible prior to them leaving and using means such as encouragement to share a song, to play some music or to speak about what is making it difficult for them to stay.

> Therapist event: *"The fact that he even came! Had been really agitated about miscommunication between staff about his leave."* Th4, Session 2

> Therapist event: *"Expressed an interest to participate in the group but stayed for a very short period- Group was very fragmented at this point and I wondered if this was too much for PPT5"* Th3, Session 9

> Therapist event: *"PPT12 was able to speak about his anxiety and to tolerate remaining in the group a bit longer (after having asked to leave) to explore this"* Th2, Session 3

Therapists focused in particular upon patients' ability to return to the group after an absence, to join part-way through a group and their commitment and engagement once in the session. This process was followed by participants who began to reflect upon their ability to attend and stay as important events themselves.

> Therapist event: *"Important that PPT16 came to the group and managed to stay. It seems though that for PPT16 this is more a means of passing time than engagement in a therapeutic or musical process."* Th2, Session 8

> PPT32 [Important event]: *"I went in late. I didn't start it and went in in the middle, so it was important that I could catch up."* Th4, Session 23
> Therapist event: "*32 had just come back from leave and was reluctant to come in when he looked in an saw quite a full group, but he was able to 'brave the crowd' and joined in, contributing sensitively to the group's music*." Th4, Session 24
> PPT32 [Helpful]: "*I went in late- just going in to the session"* Th4, Session 24

The end of therapy interviews provided greater detail regarding the challenges patients faced in attending music therapy. Participants spoke of feeling motivated by the idea of making music, but having to overcome significant physical, emotional and motivational barriers in order to attend.

> *"Well, I went through a phase of not wanting to interact too much erm, whilst I was in the hospital, so I missed out on a few music therapy courses...and I think I was deep in my own problems, but I found that when I did ..actually attend…the music therapy group, it just allows you to focus on something else for an hour or two hours and, you know, your problems are still there, but they're not as hard hitting if you like, you know, [mm] it's -- you're focusing on something else"* PPT33

This participant described his experience of therapists encouraging him to attend as helpful despite not wanting to be with others.

> *"…when I first came into the ward, [I] wanted to be on my own, and erm, I found actually just, breaking through that barrier and- and actually joining erm, which may or may not have happened if yourself and...the tutors were weren't so...you know, you'd probably ask and then they'd ask again [laughs]. Or if you wasn't around, they'd come and knock on your door, you know, and err I'd be thinking oh I really don't fancy going to music therapy today, I just want to be on my own, so...they were very encouraging"* PPT33

For one participant, the most important event for his second session was *"Them turning up and surprising me. They hadn't forgotten"* (PPT63, Th2, Session2) suggesting that this means of approaching patients before the group was of importance to patients. Another participant explained how she would actively leave the group if she felt it would be too painful to continue. Of note was the impact of unfamiliar group members and the vulnerability experienced in sharing emotionally with others.

> *"…being in a place where I thought it would be painful, I've taken myself out of it- I've not- I've walked out- I've either walked out or or not gone to the group because I'm too tired and know that I won't be able to - handle it- as it were, so, err so- probably could have been more helpful if I had've gone and pushed myself through that, maybe it would've helped me express myself more, but I wasn't in a place where I was ready to do that, erm, because I was still holding back, I still had my mask on, is the way I've been describing it. So I wasn't ready to remove my mask and bare myself, maybe, emotionally, to a group of strangers."* PPT92

In addition to personal challenges to attendance, participants expressed a desire for other patients to attend, along with empathy for how this might be challenging.

"I think it's- it's disappointing when people leave, and I mean that's not so much the fault of the therapist, or anything, erm, but when people- when it dwindles in numbers, it starts good and then one person leaves, and then another person wants to go back to the ward, and then another person, and like sometimes, it was just like, well, I don't know if they were on a lot of medication, but it was just me, and the therapists, and I'm like, oh no, you know, it's unbalanced, it shouldn't be like that and erm, I found that really- disconcerting, and like I mean obviously some people have got a smaller concentration span, because of their illness or whatever, so it's understandable but err, I-I didn't find that helpful erm, but you know they can't force them to or tie them down, [laughs] erm so that's a shame." PPT8

"…last week she came, it was- afternoon- and no one was there- in fact there was only me and her, then, later on, another person came, - and the usual suspects, they were sleeping [laughs]" PPT90

Early departures and late arrivals were experienced as particularly disruptive to the group process, with a suggestion that stricter boundaries be placed upon attendance in sessions.

"*…well people kept distracting [therapist] from-she was kind of a key member of the music group, and making music that was- and every time she gets distracted then we all get distracted so that kind of didn't help*" PPT13

"…sometimes when people left the group early, it was a bit...especially if you was coming up with something and erm, ... I suppose that could be called hindering or erm, some people'd come and then just realise they didn't want to do it, or they'd feel too tired, or didn't feel well and it would stop and that person would go." PPT33

"I don't know how hard it is, but you either come at the start, and you can leave, but then you can't come back in, like a lot of the groups, but you just can't wander in half-way through and wander out for five minutes, because I think it's very disruptive for the group, erm, because if the door's locked, then someone'll has to unlock the door then, and that's that kind of stops the flow- in music it's all about flow and energy, erm, so that I think would be- in terms of the group, would be more helpful." PPT92

Musical connection to and expression of emotions

Once engaged in music making, processes were described whereby participants were put in touch with their emotions, expressed their emotions through music making and in some cases began to reflect upon this internally and verbally within the group. Within the questionnaires, participants frequently commented upon feeling "calmer", "less stressed" and "happier" after the group yet participants also described experiences where they were put in touch with more difficult or painful emotions. Participants explained these processes first hand whilst therapists interpreted these processes through the qualities of the music communicated by the participant and the content of verbal reflection afterwards. Notably these experiences were linked by both participants and therapists to the preceding improvisation, where qualities of the improvisation were noted to be 'intense' or 'sustained' playing.

> PPT20 [Helpful]: *"It helps me to feel my mood come out. When I play, I understand what I'm feeling."* Th5, Session 12.

> PPT88 [Helpful]: "*Because I'm a really silent person, but inside I'm not silent, so I can express how I feel. Drums can be more loud so I don't have to shout.*" Th5, Session 1.

> Therapist*: "Talked about tension on the ward and how there was peacefulness in the group. PPT13 agreed. When I encouraged the group to let the tension out in the music, PPT1 played bongos loudly and rhythmically. He then shared with the group passionately about how music is part of him and described the rhythm he had been playing as a traditional chant/rhythm about corn and indigestion (drew links with the catharsis of tension)"* PPT1, Th4, Session 1.

> PPT5 [Important event]:*"The music and the talking at the end. I felt free to talk about anything. It was really good- the sounds and collaboration. It opens up channels that were previously blocked and makes your heart flow. It improves your mood and deepens your love of all people. It was a profound discussion."*
> Therapist: *"Spoke about his experience of being an inpatient. He described feeling powerless. Explored his experience of being an inpatient and of music therapy."* Th3, Session 5.

> PPT30 [Helpful]: "*Feeling like I could let my emotion out through the music*"

PPT30 [Important event]: "*Talking about how emotions come through during the playing of a drum or xylophone or keyboard or sound of the sea- all brought back memories and let my emotions flow through the music- talking about it afterwards*" Th2, Session 1

Therapist: *"Singing a Portuguese song, became tearful and subsequently spoke about her family and childhood- connection to her feelings, making sense of her verbal interactions and emotions."* Th2, [PPT9], Session 1.

Therapist: "*Towards the end of the group, PPT33 was able to reflect verbally on the music and on how he has been feeling- worries and sleeping lots. It seemed that in being able to reflect verbally he became more connected and was trying to process his experiences on the ward.*" Th2, Session 2.
Therapist: "*He seemed to link his thought processes to the music he was making and was able to voice thoughts that he said had previously been ruminations for him."* Th2, Session 3.

Therapist: "*Last improvisation 'the future' - intimate improvisation, sounded quite hopeful. PPT41 burst into tears after, saying it was so sad and proceeded to outpour about the [problems] he was experiencing and how he hoped to change himself in the future*" Th4, Session 2.

Improvised singing was noted to be particularly powerful with participants and therapists noting how this enabled participants to express both difficult and joyful feelings in the moment.

Therapist: "*After singing freely…with PPT73 on voice and therapist on keyboard, PPT42 opened up and shared that he had a 'sorrowful day' and began to open up about it*"
PPT42: [Important event]: "*I sang and others played. I was able to say that I had a sorrowful day. The energy I let go/released*" Th4, Session 15.

Therapist: "*Song he improvised about his experience of being in hospital and things which make him anxious- he was sounding out his self and feelings.*" PPT50, Th3, Session9.

Therapist: "*Sings out her pain about incident supported by the group sprechstimmer*"

Therapist: "*Vocal improvisation sung into simple musical structure with therapist -->exchanges-->dance. Shows listening and pleasure in shared music."*
PPT54: [Important event]: "*We were singing to each other 'I love you'. We were expressing ourselves- a feeling of expression.*" Th5, Session 10.

Therapist: "*Reggae: PPT96 started singing spontaneously and this seemed to help him express cathartically*"
PPT96: [Important event]: "*I sang about my problems. Music is very powerful to me*" Th4, Session 1.

The overall process was succinctly described in an end of therapy interview with a male participant. He explained how he initially attended for fun and relaxation, but after a particularly long improvisation, found himself opening up and talking with other patients about their feelings in the group. It is notable that this was an all-male group and the participant explained the difficulty in particular of talking about feelings within an all-male context.

"I mean, if you want me to be really, really honest,. . .the way you'd just…the music session you'd drop kind of err- relaxation in the sense that you forget your own problems, that you had and you just you lose yourself into the music where, you'd just play, you'd laugh, you'd joke and- and that- that's about it, you know, and err, it also talking about your innermost feelings and this er- this and that- it doesn't come up, because you know because that door's shut. . . Erm, the last session…we played drums for a very long time, it was really, really good. So she stopped it for a little bit because we were going for a long time and then we just started talking and- you know?, one thing led to another and we started expressing our, you know, our issues and,...erm, I expressed myself erm, you know all the bad things that we're doing and how I should correct it and then she was listening to me and she was giving me her thoughts as well. And that other person was saying the same thing. . .so, in a way it really helped because sometimes we normally have this kind of illness - it helps you figure out who you are. So within the group session, when everybody started expressing themselves I was thinking, ok, I can handle it when he suffers the same as me or he did, or he did, so basically everyone is in the same boat, so in a way, you don't feel isolated, you don't feel like you're the only one, you know, you just think oh- that's good, you know what I mean, I thought I was the only one. Hearing, sort of like, you know, intimate details. . . were...discussed. So, that- in a way erm, can do you good." PPT92

Musical-Social processes: Musical participation leading to greater awareness of self and others, bonding and relating

Musical-social processes were described whereby musical participation led patients to develop a greater awareness of themselves and others and to forge musical connections with one another. In particular, awareness of the roles participants took in the group was highlighted by therapists, alongside musical interactions that led to discussion of interactions within the group and ensuing self-awareness by patients.

> PPT32: [Important event]: "*Playing the tambourine- because that's when I played a little bit louder than normal. They suggested I play a little bit louder- it was ok*". Th4, Session 17.

> Therapist: "*PPT16 had more awareness of his music being mirrored- he looked up at these times, made eye contact and smiled- hearing himself be heard*". Th2, Session 12.

> Therapist: "*PPT71 played the open strings of the guitar. Therapist established a chord progression and his playing became more responsive and interactive- it seemed more co-creative. Improvisation was followed by a 'pregnant pause' before he left the group- moment of attunement.*" Th3, Session 11.

> Therapist: "*Played and sang the song 'should I stay or should I go'. She also connected with others- musically with the rhythm on the drum, and verbally, reflecting what another person was saying about wanting to leave- Seemed to be making an active effort to connect with others and was less dominant than in previous weeks.*" Th2, Session 6.

Closely implicated in this process was the ability of patients to listen to others and become aware of the impact of their own music making upon others within the overall group improvisation. Where patients had difficulty in listening to others, due for example, to disinhibition, restlessness or psychosis, therapists would make strong directive interventions to raise awareness of patients to each other in the group. The most frequent unhelpful experiences were related to this process through descriptions of sessions being noisy, loud or chaotic and patients not listening to one another or showing regard for their impact upon others.

Therapist: "[Therapist introduced] *structure invites responses (dance and vocal). [PPT99] initiates and stands up for ending*" PPT99, Th.5 Session 53.

Therapist: [After structured activity of turn taking solos] "*Spoke about the experience of having a turn to play on his own and his thoughts about whether we (and the rest of the group) were judging his playing on how good or bad it was. This enabled a discussion about what music therapy is for and that there is no right or wrong way of playing, which may have been an important group/process boundary for 110 to hear and talk about as it was his first group."* Th2, Session 1.

Therapist: "*Solo/turn taking improvisation- After trying to find a way to all play together, therapist suggested for 32 and 93 to take turns to solo so as to hear each other and enable 32 to hear himself. When 32 soloed, 93 smiled and mouthed 'lovely' and was able to stop playing and take in another's music for a short while. First time we have used such a structure to break 93's playing and he seems able to accept it and engage with listening to others even if momentarily*."
PPT32:[Important event] "*When we played in turns. When I got to play myself and lead. . .it gave me a chance to listen to myself play"* Th4, Session 4/30.

Therapist: "'*Using words as music' improvisation- 42 had a lot to talk about this session. He often became thought disordered and other group members were finding it hard to engage with him. When therapist pointed this out to him, he was aware. I suggested for him to say anything, not worrying about making sense as his sound/musical contribution. He was then able to be more coherent. Music structure was a boundary and space for him to express himself non-judgementally. After this, he had a few moments of clarity when he talked*."
Th4, Session 8.

PPT66: [Important event]: *"When I decided to leave because the patient was playing too loud. When it's too loud you can't hear yourself- like on the ward when others are talking- you get drawn into their conversation. It's not helpful when people are all in their own minds doing their own thing and not listening to one another"* Session 7.

PPT4: [Unhelpful] "*When we are not putting the right tune/we're out of time*"
Th3, Session 2.

PPT47: [Unhelpful] "*Too many people were out of harmony. The music was too free form- it should be more like the X- factor. You need to get people to be part of the same thing.*" Th2, Session 3.

As patients became aware of themselves and others, they described music as providing a means of bonding with others in the group, reducing inhibition and leading to greater closeness, empathy and social interaction with others. Closely tied to this was the idea of shared structure and synchrony within music making with the group finding a shared pulse. Experiences were described as the group being 'harmonious' or 'coming together'.

PPT47: [Important event]: "*Harmonising with another patient helped me to communicate with him afterwards in English. I felt him reveal himself personally for the first time- he could drum when he wanted to. Because the whole thing is harmony- to get everyone beating to the same drum. The fact [he] could tap out a single 1-2 beat showed he could work with other drummers. I was frustrated when everybody was playing at the wrong time. It takes work to get the group together*." Th2, Session 2.

PPT7: [Important event]: "*I tried to find the flow in which others were playing and join in and adapt to it"* Th1, Session 1.

PPT33: [Important event]: "*At the end when we all connected musically. Everybody in the room gelled.*" Th2, Session 6.

Therapist: "*PPT27 talking towards the end of group about how the group's music came together or became disconnected when everyone started doing their own thing. Showed his sensitivity to the music and was able to reflect on the music.*"
PPT27: [Important event]: "*The synchronisation of randomly played improvisational music. I enjoyed the beautiful harmony of the sound of music and the influences it had on us. It was a great experience*." Th4, Session 2.

PPT55: [Important event]: "*When we were all in the zone of being in rhythm- it's really nice. It's like a beautiful wave or scene of a rainbow. Without people being together in rhythm and unity there can only be destruction.*" Th1, Session 1.

PPT104: [Why important]: "*It was nice- the group got my rhythm*".Th2, Session 1.

PPT24: *"…and I don't normally like- socialise with other people because of what I've gone through, in the last few years as well, but somehow I found it bonding again from beating a drum and sometimes I like joining people, mixing like their music therapy too. There's more excitement about life.*" Th1, End Interview

PPT1: "*music is part of - it makes us to come together, it makes people- it brings people together in the society. . .Music is valuable in that it makes people come together and socialise*." Th4, End Interview.

PPT33:" …*when I finally got into the session and I felt really…more relaxed, in making the music with others … I'd find that people I wouldn't have normally spoken to in the early part of my admission, we were talking, like, the ice, it broke the ice between…participants*" Th2, End Interview.

Relationships between patients were explored in greater depth over a period of successive sessions, most notably in groups that were offered with greater frequency. Conflicts between members were acted out and usually resolved during the session and patients reflected honestly about how they felt with one another and the relationships within the group. Therapists made references and links to previous sessions. An example of this process can be seen in a session with two participants, who had been attending regularly (for 12 and 13 sessions respectively). The first participant generally presented in sessions as quiet and reserved, often playing as the quietest member of the group. Within this session, the participant:

Therapist: *"…* [PPT32] *changed a drum and said he was going to 'rock the house "ppt57 style"* [refers to previous session] *and started drumming quite loudly and strongly. He continued to play strong drum beats until another member challenged him (PPT42)*"
Therapist: *"When it was just PPT42 and PPT32 in the room, PPT42 asked PPT32 about his playing and he seemed unhappy that PPT32 was leading. Both men talked and almost resolved the issue by making one person leave but we managed to compromise and share the space with both men taking turns to solo in PPT42's rap/song. Able to resolve a difference in opinion and to ask each other for their thoughts and reality check with each other."* Th4 , Session 12/13

The therapist linked PPT32's ability to stay to previous sessions where he had struggled to do so:

> Therapist: "*Later his ability to stay and work things out with PPT42 shows a step forward to addressing problems rather than running away."*

Whilst PPT32 did not comment upon this incident, feedback from PPT42 indicated that he had an awareness of his actions in the group and that the resulting compromise had been positive in that he recognised his confidence in sharing his rap with the group:

> PPT42 [unhelpful]: *"Me being selfish"*
> PPT42 [Important event]: *"Having the confidence to practise rhyming amongst the group"* Session 13

Music therapy processes with patients with psychosis

A notable distinction between important events was made between patients with psychotic and non-psychotic disorders. For patients with psychosis, positive symptoms, such as visual and auditory hallucinations appeared to interact with their ability to stay in and engage with music therapy. In addition, distinct processes were observed for patients with thought disorder. A motivating feature of music therapy for patients with positive symptoms was the idea that music may be used to block distressing voices. For some, this was successful, yet for others, the level of 'noise' within the group contributed to a worsening of the voices, such that they had to leave.

> PPT92: [Important event]: "*It helped to block out the voice in my head. During the session the voice was drowned out this was the first time in days- I had a sense of calm. The voice is a battle so to not hear it or for it to be quiet was nice*".
> PPT92: [Unhelpful] "*It made the voice angry*" Th5, Session 1.

> PPT92: [Important event]: "*As a group we played drums/percussion in a rhythm getting louder and quieter. This allowed me to release some stress and anger which is a very useful tool for me right now. This is when we played percussion- a release of built up tension and anger was released- this made me feel better and helped to drown out the voices in my head."* Th5, Session 5.

PPT92: [Unhelpful]: "*This week my head 'voice' was bad- I only managed 5 minutes due to my head and the noise.*" Th5, Session 7.

PPT58: [Important event]: "*I played guitar (therapist piano and flute; PPT71,drum) - PPT70 played a Celine Dion CD and I listened. I sang a love song. My mind- the voice made peace. It went quiet".* Th3, Session 26.

PPT96: [Important event]: "*When everyone was playing- the vocals were about our pain. The music- all played a part- it felt together like a concert or orchestra. I played shakers and swapped instruments with PPT93- went onto drums- my hands hurt afterwards- they felt stiff. We were exchanging instruments around us- close to the end I was beating the drum while talking. The voices were drowned out a little bit*" Th4, Session 2.

PPT106: [Important event] "*I was hearing voices and lost concentration- I had to leave and get extra medication"* Th4, Session 1.

This last participant's experience occurred during his first session. He explained to the candidate that overall the session had been useful, and that the most helpful part was "*being able to get my emotions out and enjoy the music*". He was able to stay for a discussion about voices within the group which led to all sharing experiences of their voices. However, despite trying to stay, the voices got louder and he decided to leave as he didn't want the group to see him "do something" because of the voices.

One therapist noticed that music appeared to aid one thought disordered participant's verbal communication in that during and after music making, his contributions related more to the present moment and were more coherent in content. This participant chose to write a rap which was brought to subsequent sessions. The content of the rap evolved over the course of his admission with lyrics becoming more positive as sessions progressed. This participant took the rap to other group sessions on his ward and worked on the lyrics during these sessions as well.

Therapist: "*42 showed ability to play with group and was creative in use of rhythms. Started softly at first then grew stronger and explored pitch range on metallophone. Repeated A-Bb-C motif (different octaves) for very long time and music seemed more hopeful. 42's strong presence and coherence in the music, different from his verbal disposition. The length of repeated motif was striking as he played it for about 10min but remained focused rather than drift off*." Th4, Session 2

Therapist: "*All singing. After therapist's initiation of the singing, PPT42 started and later PPT13 did too. At the end, PPT42 asked how he could have freedom within the structure of the improvisation. Asked therapist how she would handle difficult people who were not playing with group and later talked about how he was when he was unwell. First time PPT42 showed coherence and clarity in his thought, after improvising. Able to reflect and converse in context and showed insight into his condition. Previously hard to verbally express himself because of thought delusions*."
Th4, Session 3

Therapist: "*42 started session with a song about his worries …We sang about this in a Q&A song and eventually he changed the words to [more positive words]* …"
Th4, Session 7

Therapist: "*First improvisation, PPT42 on guitar, therapist on keyboard. Q&A structure of playing lasting 10 minutes. Short 3-note-ish phrases and later evolved to duetting, taking turns to be accompaniment/melody. Very mature developed improvisation style, suggests music helps PPT42 to converse as after this, when talking, his thought process was clear*". Th4, Session 17

6.7 Research aim 2: Development of video coding framework

Based on the final coding of questionnaires, a typology of helpful and unhelpful aspects of patients' experiences was compiled in order to identify features to be coded in the videos themselves (table 6.5). Domains for coding were based upon the three core processes identified, plus features from the questionnaires which could be identified, described and coded objectively.

Videos were coded for:

1. Duration and type of activity:
    a. Improvisation: Music making that is created spontaneously
    b. Precomposed music: Replication or reproduction of a known musical piece
    c. Didactic activities (tuition): Teaching how to play an instrument/read music
    d. Singing: Use of voice within musical framework (includes rap and sprechstimmer)
    e. Talking: Verbal discussions or exchanges between two or more people
2. Duration of silence: Defined as absence of talking or music for more than 5 seconds
3. Number of activities initiated by patient and therapist: Coded each time a new activity is introduced and also by type of activity.
4. Duration of patient participation in the group: Coded if the patient is actively participating in the group. This included listening to music or discussions if it was clear that the participant was engaged (by signals such as nonverbal movements, signals of agreement or disagreement). Participation was not coded if it was clear the patient had disengaged (for example, no attention paid to the group activity, looking away from the group, sleeping).
5. Duration of musical participation: Coded if the participant was contributing musically (ie. playing an instrument, singing, clapping, tapping) during group or solo improvisations, singing or precomposed music making.
6. Duration of synchrony: Coded if the entire group are making music together at the same time to a single stable and clear pulse.
7. Number of joint musical endings in the session: coded if all participants cease playing at the same time.
8. Duration of time a participant is on their own without other patients in the group
9. Number of entrances and exits during the group per participant
10. Total disruption to the group- measured by the total number of entrances and exits to the group as a whole
11. Duration of the session as a whole.

Domain	Helpful	Unhelpful	Video code
Engagement and motivation	Passing time Relieving boredom Hope for future Plans to pursue music in future	**Missing the group (or part of it)** **Unable to stay for duration**	**-Duration present** **-Number entrances/exits** **-Duration of active participation**
Learning and achievement	Achievement of musical product Empowerment Learning something: - about music - about self Realising musical ability	Not being taught how to play	**-Musical activity: teaching**
Subjective mood	Reduced anxiety/stress Improved mood Enjoyment, fun	Frustrating Distressing Upsetting	
Relationships	Coordinating with others Helping another/being helped Understand/empathy of others Building a relationship with others	**Low numbers in group** **Others dominating** **Others more unwell** **Disruption with entrance/exits**	**-N in group** **-Duration of time on own in group** **-Number of initiations of activity** **-Number of entrances and exits**
Personal issues/problems	Forgetting problems Working on problems	Brought up something difficult	
Symptoms	Improved focus/concentration Voices are quietened	Mental/physical state (eg. Tired) Voices get worse	
Music	Instruments available Particular instruments **Singing and precomposed song** Creativity **Synchrony, coming together** Expressing emotions	Instruments not available Particular instruments **Lack of structure** **Noise** **No musicality/synchrony** Unfamiliarity/unable to play	**-Musical activity: Improvisation Singing Precomposed** **-Duration of synchrony** **-Joint musical endings**
Discussions	Sharing problems/emotions	**Too much talking** **Too many silences**	**-Activity: Talking** **Duration of silence**
Therapist	Supportive Caring Grounded Encouraging Providing structure to music	Not enforcing boundaries **Not providing structure**	**-Number of activities initiated by therapist**
Scheduling		Upcoming break in therapy Not told group was on Timing (clashes with something else)	

Table 6.5 Typology of helpful and unhelpful features of group music therapy
Features selected for video coding are highlighted in bold.

A purposive, stratified sample was selected from the 200 videos available to ensure equal representation across the three group frequencies and 5 music therapy groups. Sessions with high and low attendance numbers and high and low appraisals were prioritised given that these factors had been commented on as importance by participants. If additional sessions were required, these were selected to ensure balanced coverage across the duration of the study. This resulted in a total of 72 sessions (36% of total available video and 33% of all sessions). The candidate coded 56 sessions and the music psychologist (EE) coded 32 sessions. Sixteen sessions were double coded as a means of ensuring consistency of concepts and reliability. Reliability was checked in meetings between the two researchers through comparison of sessions coded. Discrepancies of more than 15 seconds were analysed and checked against the video data. Activity and participation were accurate within 15 seconds in all cases. Greater discrepancies were found in initial coding of synchrony. This may have been due to the subjective nature of synchrony and lack of detail in the overall working definition. As this discrepancy was identified early on, the definition was revised to ensure that only instances when all group members were in synchrony were coded. In addition to the video coding, the candidate made short summaries of the content of sessions including therapist interventions and resulting outcomes. The quantitative data from the video is presented below and in table 6.6, followed by a summary of therapist interventions within the sessions themselves. Therapist interventions were analysed based upon questionnaire data and memos written during the video coding.

6.8 Research aim 2: Results

6.8.1 Activities within sessions:

Sessions consisted of primarily improvisation and speaking, with shorter durations of precomposed music, singing, receptive listening or tuition. Precomposed music and singing tended to occur in combination with improvisation with activities leading into each other. For example, a patient might begin singing a precomposed song, which is then picked up by the group and developed into an improvised song, or piece of music. In contrast, there were also instances where patients introduced precomposed music into an improvisation or where therapists encouraged use of a precomposed song as a means of continuing engagement within the session. Activities were initiated primarily by patients (60% of the time in sessions), with therapists initiating on average 40% of the activities in the session. This was consistent across all activities apart from singing, which was initiated equally between patients and therapists. Patients participated in music making for up to 46 minutes of the session, although on average created music for around 16 minutes of the session. Synchrony usually lasted for around 6 minutes of the session, although ranged from 0 to 28 minutes. There were few joint musical endings in sessions with an average of 1 joint ending per session and a maximum of 5 joint endings.

	Sessions analysed: N=72			
Variable	Mean (minutes/counts)	Std. Dev.	Min	Max
Type of activity (duration minutes)				
Improvisation	26.37	11.89	0.15	51.74
Precomposed music	4.03	5.43	0	25
Singing	5.51	5.62	0	32
Speaking	23.00	12.04	0	57
Tuition	0.14	1.21	0	10
Listening to CD	0.07	0.61	0	5
Silence	0.83	1.10	0	6
Activity initiation (number per session)				
Total N Therapist initiations	28.1	17.5	1	77
Total N Patient initiations	45.9	29.1	1	122
Improvisation- Therapist initiated	2.7	2.7	0	12
Improvisation- Patient initiated	9.8	7.2	0	35
Precomposed- Therapist initiated	0.5	1.4	0	7
Precomposed- Patient initiated	4.4	5.9	0	26
Singing- Therapist initiated	7.4	10.2	0	56
Singing- Patient initiated	7.4	9.3	0	47
Speaking- Therapist initiated	17.5	12.4	0	51
Speaking- Patient initiated	24.3	17.1	0	73
Proportion of Therapist initiations to Patient	0.4			
Musical Parameters				
Duration of music making (individual patient)	16.6	11.1	0	46.9
Duration of synchrony	6.23	5.48	0	27.87
Number of joint musical endings in session	0.9	1.1	0	5
Engagement parameters				
Duration patient participates actively	29.3	17.1	0.1	65.4
Duration patient is present	34.1	17.9	1.2	65.4
Duration of session	52.45	11.60	13.99	87.27
Proportion of patient activity in session	0.86			
Group attendance				
Number of patients attending group	3.40	1.39	1	7
Duration of time patient is on their own	4.03	9.93	0.00	56.16
Number of times patient comes into group	1.4	0.8	1	7
Disruption				
Number entrances in the group	3.1	2.4	0	12
Number of exits in the group	2.5	2.2	0	9
Disruption (entrances plus exits)	5.7	4.4	0	21

Table 6.6 Content of music therapy sessions from video coding with mean durations/counts and range

6.8.2 Engagement and attendance

Patients participated on average for 86% of the time that they were present in the session, but on average were present for only 65% of the overall duration of the session. Whilst all sessions were scheduled for an hour, on average sessions lasted 53 minutes. When taking patient attendance into account, some sessions were as short as 14 minutes, whilst others lasted up to 90 minutes.

On average, there were between 3 to 4 patients per group, with a minimum of one attendee and a maximum of 7. Patients were on their own in the session, effectively receiving an individual session from between 4 minutes to 56 minutes (an entire session). On average, patients left the session and returned once during the session (mean=1.4 times present), with a maximum of 7 entrances in a single session. On average there were more late arrivals to the group than early exits, with overall disruption ranging from 0 to 21 entrances and arrivals.

6.8.3 Therapist interventions

Interventions most frequently used by therapists were providing musical structure, initiating music making, songs and precomposed music, opening individual verbal discussions to the wider group and providing clear boundaries. Musical structure was most commonly provided through provision of a steady pulse or ostinato on a melodic instrument. Songs were used particularly as means of verbally acknowledging patients who spoke during music making in an improvised format, or as a means of encouraging patients to stay by suggesting they share a song known to them.

The use of boundaries was particularly strong in cases where patients presented with chaotic attendance, strong impulsivity or difficulty in sustaining concentration. In some cases, patients requested listening to, or recordings of the session on CDs, or being taught a piece of music. These were handled by the therapists based upon the composition of the group at that time and the level to which the patient would engage with further active music making. Where patients were in the group on their own, therapists responded flexibly, acknowledging the request but making it clear that should others arrive, the activity would have to cease. In cases where a larger group was present, the request was thought about in the context of the group and decided upon based upon the group's wishes as a whole. Within these discussions, therapists encouraged the group to reflect upon why they wished to have an alternative activity and what this might represent. This led, for example to one group using notated music to learn a precomposed song over a number of sessions to try out a different mode of music

making from improvisation. One of the patients suggested in his responses that this process enabled them to understand the value of improvisation, whilst accessing an experience of learning music. In a separate case, the music therapist encouraged a patient who wished to play CDs to improvise along to the music. In doing so, the patient was able to engage sporadically in the session and this led to further, more creative improvisation within a precomposed musical framework later in on the same session.

Therapists generally appeared to follow the lead of the patient within sessions but would provide clear direction when the group was unable to function cohesively either musically or in verbal discussion. Instances where interventions were required were dominance of an individual patient, a lack of musical cohesion, initiation and/or modelling of music making and providing suggestions to patients to encourage music making or find a way of playing together. From the questionnaires it was clear that therapists were proactive in following up group members prior to the session and afterwards if they did not attend, or if they had a difficult experience in the group. One patient who attended regularly then ceased attending, continued to engage with the therapist each week and noted after the final group session that he felt he could have 'made more' of the sessions.

6.9 Patient reported changes and attributions for change

Within the end of therapy interviews participants were asked to describe the changes they had noticed since they started music therapy. Participants were encouraged to list all changes, regardless of whether this was due to music therapy or not and then asked to rate how much they expected the change to happen (1=expected, 5=surprised), how likely the change would have happened without music therapy (1=unlikely, 5-likely) and how important the change was for them (1=not at all important, 5=extremely important). Changes reported by participants in the end of the therapy interviews were wide-ranging, and are listed in tables 6.7 and 6.8. Participants reported between 1-6 changes each, with a mode of 2 changes (mean=2.875) and a total of 47 changes.

Participants attributed the majority of changes they had experienced to music therapy although all suggested that overall their recovery was due to a combination of medication, psychological and occupational therapy rather than music therapy alone. Changes encompassed relationships, mood, cognitions, symptoms and emotions. Seven of the changes related to participants' relationships with music, where all but one were rated as extremely important.

Many of the attributions were phrased in terms of learning, although it was articulated that this learning was from participating actively within the session itself rather than being taught. Linked to this, was the role of creativity which was seen by many as the means by which learning took place:

> "*It was just erm,....getting back on an instrument I think, really. Opening up the part of the brain that, that - which....creates I think, you know, because you're forced to create something, where, basically it's like one big jam session, and noone's really got any idea of what they're going to do, errrm, it wasn't like everybody knew a certain song, really, you know, it was basically listening, fitting in where you could, and I think erm, that- in itself... I think you can gain ideas*" PPT33

> "*It taught me to, to create- like to do- to develop my time, from not doing anything... [mhmm], into something...like playing instruments and playing- making music*" PPT32

> "*Well, learning how to play an instrument.., learning how to listen, learning how to cope, learning how to be kind, learning to have patience, [mhmm] it's a learning curve, music therapy*" PPT99

> "*Interacting with other people and with [therapist] that whole interaction... I suppose that, you know, it makes you aware of where you are, who you are and rather how you should- how you should be with people*" PPT13

Participants suggested that they played an active role in these changes and it was through this self-directed participation that they discovered new insights and ways of relating:

> "*There was one moment during the music therapy which was good, I- I erm, I wouldn't say I lost myself in the music, more a case of I found myself in the music even, so I - I started to make an interesting noise …- which I thought was good*." PPT13

> "*It was purely having a go- it was just being in a situation where... the stuff was in front of me, erm, ...there was nothing- stopping me from just having a go. I was there, it was expected of me to be in the room and to have a go, and so I had a go, whereas I think if it had been down to me to sort of,... I wouldn't have- I'd have talked myself out of it…whereas I was in a situation where you weren't expected to be any good, you just had a go and saw where it took you and..that was really good*."
> PPT53

Participants attributed changes in mood to the idea that music can affect and change emotions, although release of tension was more often applied to active playing of the instruments themselves. Two participants noticed changes in how they were able to handle the instruments and make use of them for self-expression:

> *" and if you're- if you're under like a lot of pressure and that sometimes, it's good to- you know you can beat with the drum and - go on- how - how can I say?- you'll get a lot of your frustration out. [mhmm] It seems to me that banging the drums are the best sort of music to play, and it seems to release a lot of the tension and a lot of the pressure that you're actually going through [mmm] at the time*."PP101

> "*Erm I'm- happier than I was when I came in and able to handle my emotion and express it better than I was when I came in…And for me as well to start -to to -from going in there and just beating a drum and not really singing, to then- being able to sing a bit more and express myself a bit more, yeah*" PPT1

The verbal discussions within the sessions were considered as ways in which participants deepened their understanding of their experiences and addressed wider issues for participants in the group. Participants suggested therapists played an important role in the questions that they asked and the space that they gave to discussions.

> "*I quite liked erm, that moment of self-reali[sation]..-yeah- I mean we had lots of interesting conversations that led off the music, you know, that start off with talking about music and then they lead off to somewhere else, but yeah lots of interesting conversations with [therapist] and myself and... the group as well- we discussed a lot of stuff actually. That was good. It was really helpful*." PPT13

> "*She taught us to be assertive and, and- and how to play music, like just to- think- think it through and - in our playing, and think, what we're doing, and she taught us that we are all important in life.....and sort of, playing together*" PPT32

	Change type	Unlikely to have happened without music therapy (1)	Probably would not have happened without music therapy (2)	No way of telling (3)	Would have happened anyway (4, 5)
	Insight	Realising there was something wrong in how I was thinking	Self-realisation		
M		Realising I have musical ability			
M		Finding some of myself in the music			
M	**Creativity**	Getting in touch with creative side			Ideas to make a track
M		Having/bringing musical ideas to sessions			
M	**Learning**	Gaining knowledge by learning an instrument			
M		Understand more about music making			
M	**Motivation**	More willing to give music a go			
		Relief from boredom			
	Mood	Learned how to laugh again		Improved mood	
		Released tension	Less agitated		
		Feeling happier	Happier		
		Relaxation			
	Interpersonal	More able to have a conversation with others	Interacting with others	Interaction with people	Getting along with others
		Seeing others' journeys			
		Less isolated			
	Symptoms	Delusional belief no longer held	Paranoia has gone		Magical thinking gone
	Cognitions	More positive thoughts on life and relationships	Thinking patterns have changed	Thinking more appropriately	Thoughts put onto paper
		More thoughts			
	Behaviour	More patience		Behaving more appropriately	Stopping smoking
		More tolerance			Listening to positive music
		Learning to listen			
	Distraction	Escape	Focus on something other than problems		
		Forgetting problems			
	Emotional	Experiencing more feelings	More awareness and expression of emotions		
	Hospital			Awareness of environment	
				Situation in hospital	

Table 6.7 Patient reported changes and attributions for change (M= music specific change)

Domain of change	Likelihood of change happening without music therapy (1=unlikely, 5=likely)					Expectation of change (1=expected, 5=surprised)					Importance of change (1=not at all important, 5=extremely important)				
	1	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**	**1**	**2**	**3**	**4**	**5**
Insight	3	1							1	3				2	2
Musical Creativity	2				1			1		3	1		1		1
Musical Learning	3					2				1				2	1
Motivation	2									2				1	1
Mood	5	2	1			2	1	1	2	2				4	4
Interpersonal	3	1	1		1	2			1	3				2	4
Symptoms	2	1	1	1		1			1	3		1	1	1	2
Cognitions	3	2		1	1	2		1	2	2			1	3	3
Behaviour	3		1	1	1	5				1		1	1	4	
Distraction	2	1				1			1	1					3
Emotional	1	1				1		1						1	1
Hospital			2					2					2		

Table 6.8 Frequency of participant ratings of changes by attribution of change

> "*They were very good at, stopping the session if it sounded like- [therapist]'d say, how do you feel the session's going...and then someone might say something … trying to express themselves, about a problem they're maybe having and the rest of the people would sit and listen, so I think that was a good- so.. sometimes the music therapy isn't just all about....playing instruments or, [therapist] sometimes would recognise that member of the group had something on their chest that they wanted to - so they'd just…they'd investigate it and people would have a say- ask how they were feeling, etc etc, so..it was good and the rest of the people would sit and listen, you know, you know they'd stop playing their instruments or- so I found that quite good*" PPT8

One participant with psychosis, as discussed in the previous section, suggested that the discussions in music therapy could have assisted in helping him to overcome his thought disorder:

> "*Well I mean, the questions I suppose, that [therapist]... instigated and led, were thought-provoking. That it was to do with - in the music therapy group. Yeah, you know, which, could have prompted me to start thinking normally.*"PPT42

6.10 Discussion

This study was an examination of music therapy experiences of patients and therapists in order to identify core processes and content of sessions in order to develop a model of music therapy within acute psychiatric inpatient settings. Data were collected from 222 sessions, with 400 patient responses. Of these responses, 72% were for sessions provided three times per week, and 25% from music therapy provided twice per week. Sixteen in-depth interviews with patients were also conducted when they had finished attending music therapy.

The first aim of this study was to identify aspects of music therapy that were experienced as significant from the point of view of patient and therapist and the processes that such events might represent. There was some correspondence between patient and therapist reports of events, with 25% of all events matching between patient and therapist. Events were experienced mostly within the musical activities themselves or detailed an aspect of participation or interaction with others. From the qualitative data, three distinct processes were identified in the significant events of the course of therapy. The first process outlined the importance of engagement and motivation to attend music therapy. Both patients and therapists identified ability to attend, stay and participate in sessions as important features. For therapists, this was most prevalent in early sessions, whilst this also became a concern for patients in later sessions. It is notable that some patients valued music therapists pro-actively engaging with them to encourage them to attend. This suggests that some patients acknowledge that they need encouragement in attending sessions and that such a practice may be valued and seen as helpful by patients. The second process described how patients used active music making to become aware of, experience, express and process emotions, which patients suggested contributed to feelings of improved mood and better understanding of emotions. Musical expression of emotions led in some cases to open discussions of feelings and problems after music making, with some patients suggesting that sharing of these in a group context assisted them in making sense of their situation and feeling less alone. The third process described how musical participation enabled patients to become more aware of themselves and others, and to develop musical and social interactions. Patients suggested this process contributed to outcomes of better social relationships and clarity of thought. The experiences of patients with psychosis suggest that music has a particular role to play in the management of positive symptoms, particularly thought disorder and hallucinations. Patients experiencing auditory hallucinations suggested that they attended often with the hope of blocking voices out with music. Whilst this was sometimes successful, in other cases this led to the voices becoming worse and the patient having to leave, particularly when the music was

experienced as ‘noisy’. Another possible process was in the impact of musical structure in structuring thoughts and verbal communication in thought disorder. However, this was only fully described in one case in the data and therefore may not be representative of patients with psychosis as a whole.

The mechanisms by which all of these changes occurred appear to be based within the interactions that are created through active, mainly improvised music making and the reflections upon these interactions and wider problems after the event. Patient identified helpful and unhelpful features suggest that the therapists’ attitude and interventions, composition of the group, the ability of other members to engage and participate and the cohesion within the music were features important to their appraisal of sessions.

The second objective of this study was to then code videos of music therapy sessions to examine and describe the content of sessions. Features which could be objectively coded in video data were selected based upon patient reported helpful and unhelpful events and coded for one third of all the music therapy sessions. The coding of sessions confirmed that music therapy sessions consist primarily of improvisation and discussion, although other musical activities are used to a lesser extent. Activities are initiated to a greater extent by patients, who are active for the majority of time they are in the session, although not present for the session in its entirety. Synchrony within the music is usually brief, with on average 6 minutes of whole group synchrony per session. Similarly, joint musical endings were infrequent with on average only one per session. Therapist interventions were directed towards maximising patient engagement and maintaining cohesion within the group and music making. Based upon these findings, greater detail can be added to the model developed in chapters 4 and 5 by adding the processes identified within the sessions themselves. This model is presented in figure 6.2.

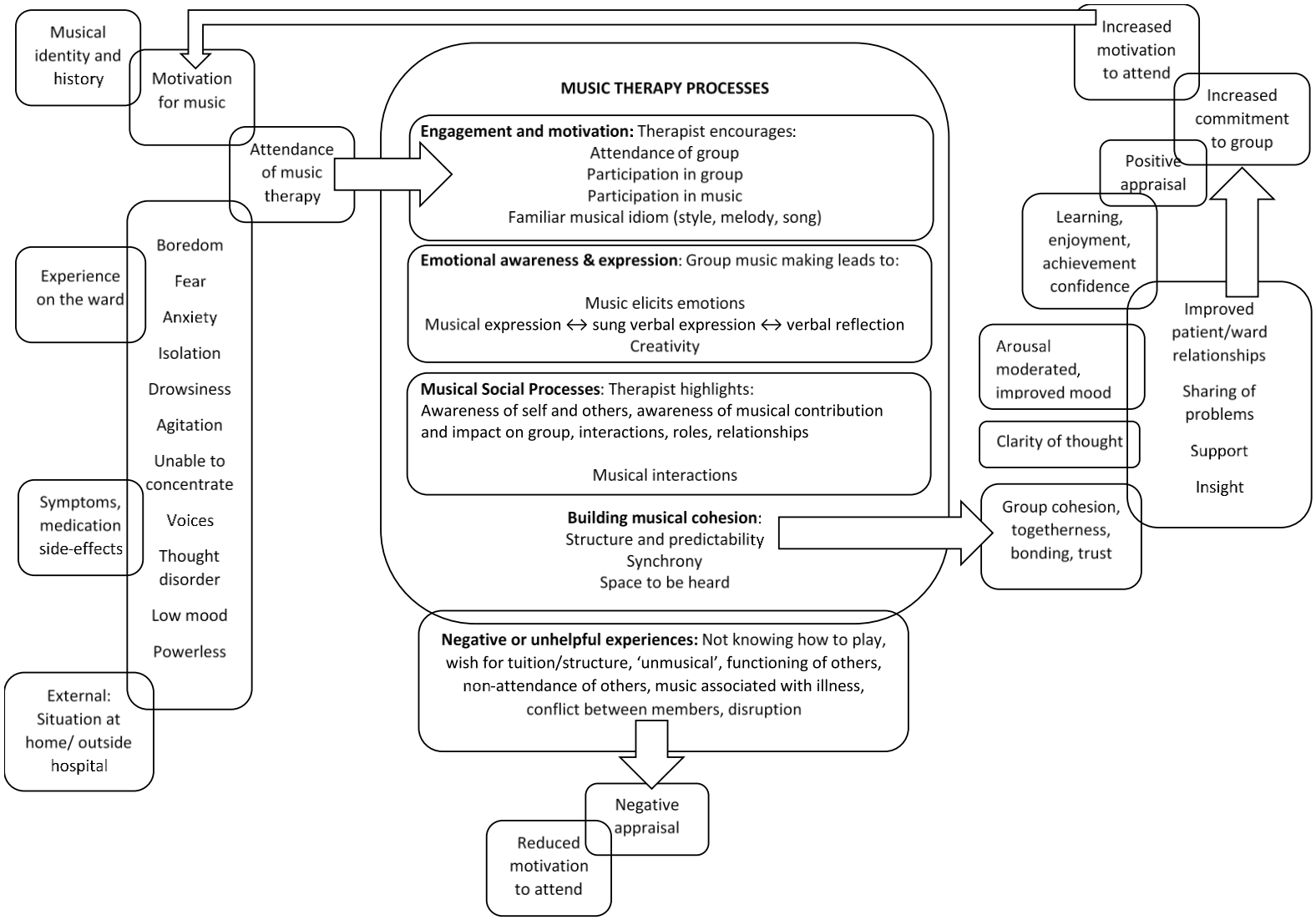


Figure 6.2. Processes and hypothesised model of engagement within group music therapy for acute adult psychiatric inpatients

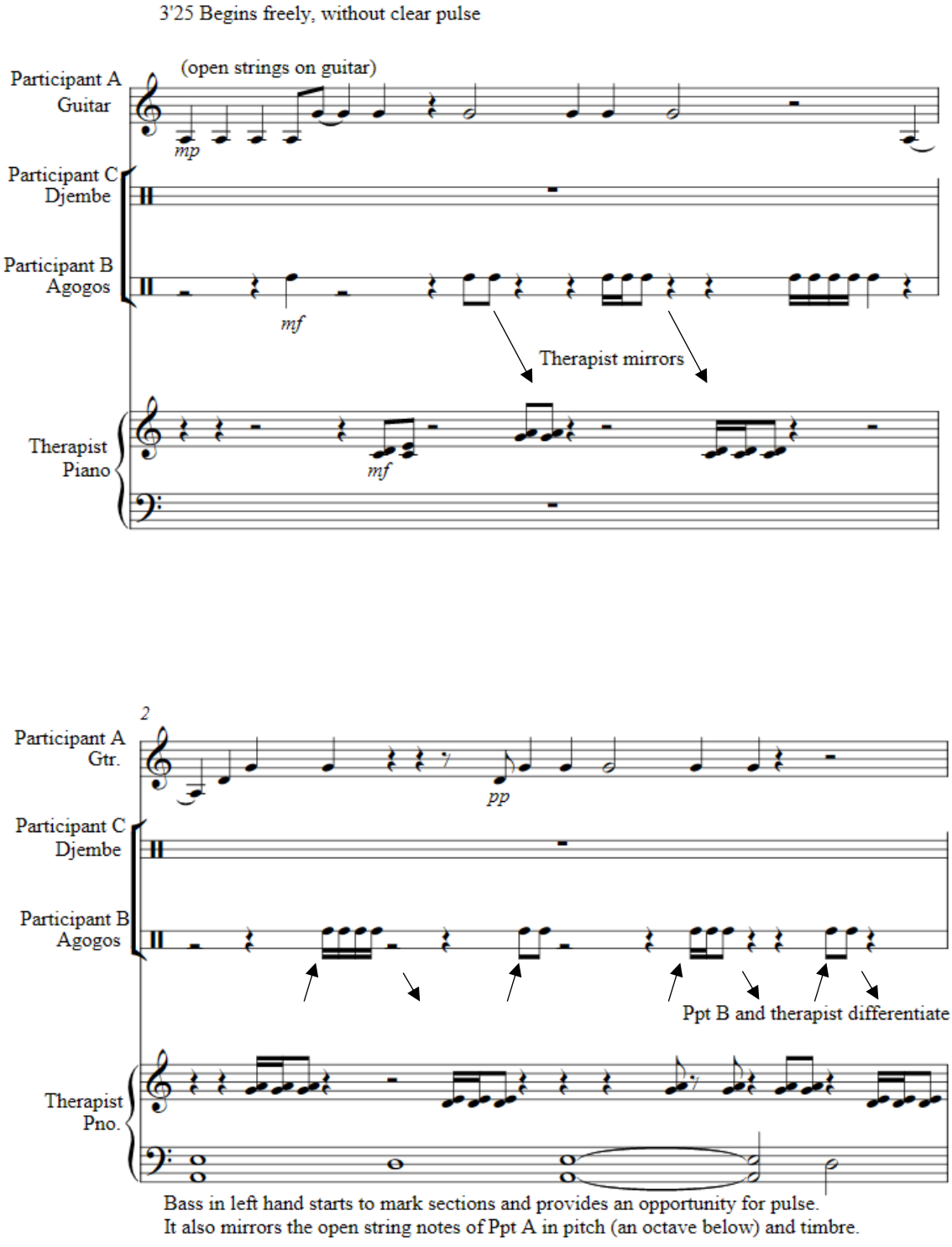
6.10.1 The role of synchrony and joint musical endings

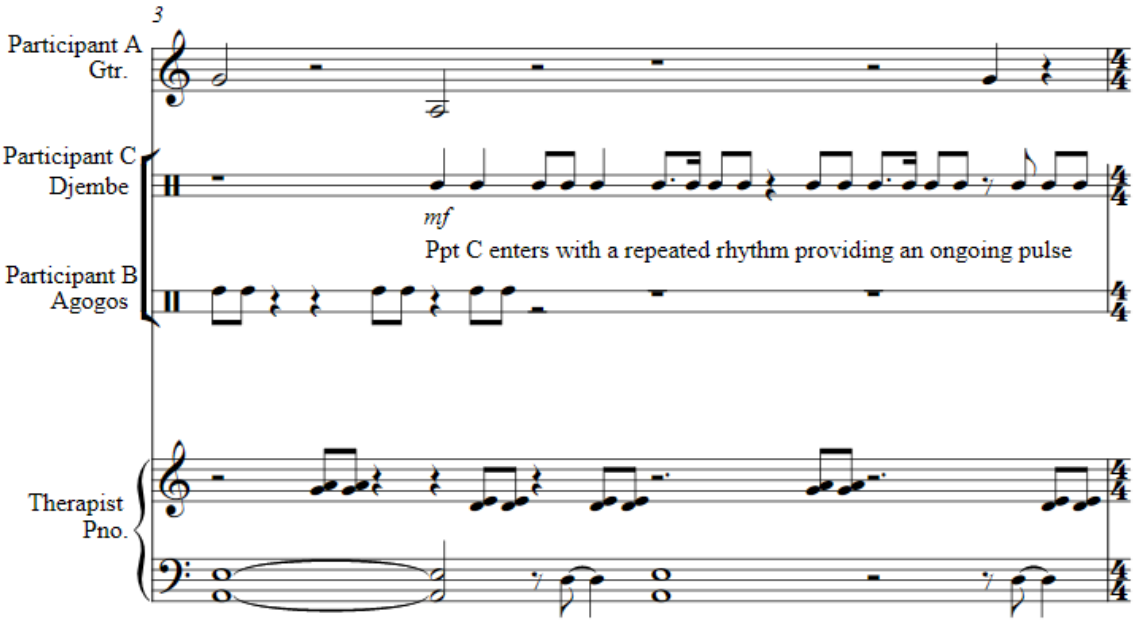
Synchrony and joint musical endings may play an important role, particularly in social and engagement processes. Therapist interventions of providing a stable pulse or ostinato, intervening when the group was losing musical cohesion and provision of simple structures all pointed towards finding ways of helping the group to come together musically. Similarly, patient experiences suggested that moments where the group 'came together', were 'harmonious' or 'gelled' led to both feelings of achievement in terms of a better musical aesthetic product and success as a group; and in terms of breaking social isolation, feeling bonded and closer to others, thus achieving successful social interaction. Joint musical endings may therefore be markers of strong group cohesion, that is, a group that is able to listen to and respond to others in the moment and jointly negotiate a common musical ending. Patient reported changes at the end of therapy such as breaking isolation, being able to converse and get along with others and learning how to listen may have been facilitated by such experiences.

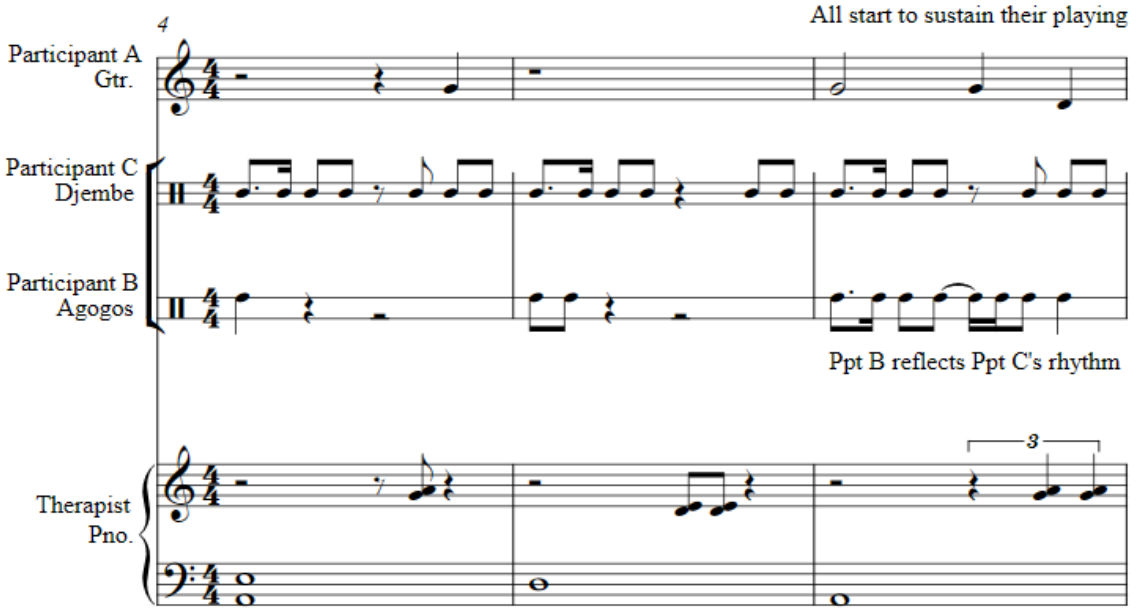
The music transcription presented in figure 6.3 shows an example of a group improvisation beginning without a pulse and gradually becoming synchronised. The excerpt comes from the beginning of the session. Three members are present (although a fourth has just left briefly and later returns, along with a fifth person). Participants B and C had not been in the group together before, although all had attended a minimum of five sessions, so were familiar with the process and activities of the group. Just prior to the improvisation, Participant C asked for B's name, but was ignored leading to some tension. The therapist suggested that they play with participant C, but as they started to do so, he stopped.

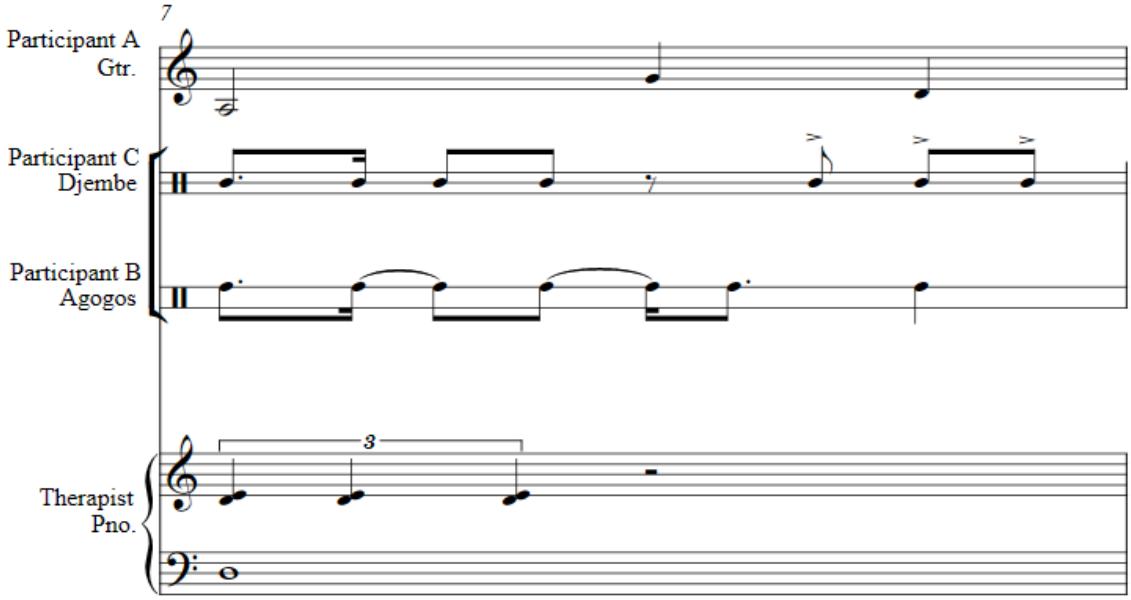
The excerpt begins with Participant A playing the guitar using open strings. Participant B contributes a single scrape on the agogos, which the therapist mirrors. This leads to a dialogue between the two of them (bars 1-2 of the extract). The therapist introduces a left hand bass which mirrors the open string notes of participant A (bar 2). This starts to demarcate sections of the music, providing the opportunity for a pulse to be found. Participant B and the therapist start to differentiate their playing from one another, maintaining some dialogue (bar 2). Participant C picks up the djembe and enters with a repeated rhythm, providing a pulse within the therapist's bass notes (bar 3). The participants sustain their playing for longer phrases with a clear 4/4 beat (bar 6 onwards). As they synchronise, the therapist offers a melody, which she repeats and varies slightly (bars 8-11). The momentum increases as participant B increases the rate of his playing to semi-quavers then a tremolo (bar 10). This is picked up by Participant A, who begins to strum quavers on the guitar (bar 12). As can be seen in the final 4 bars of the figure, all are playing together, to the same pulse.

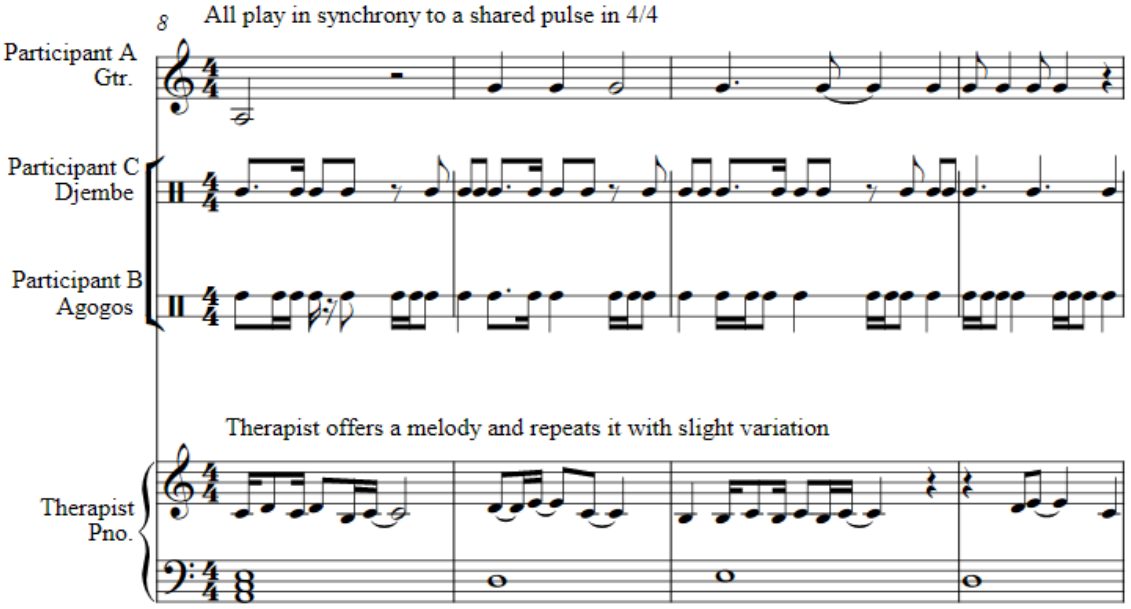
Improvisation- Unpulsed, moving to pulse and synchrony

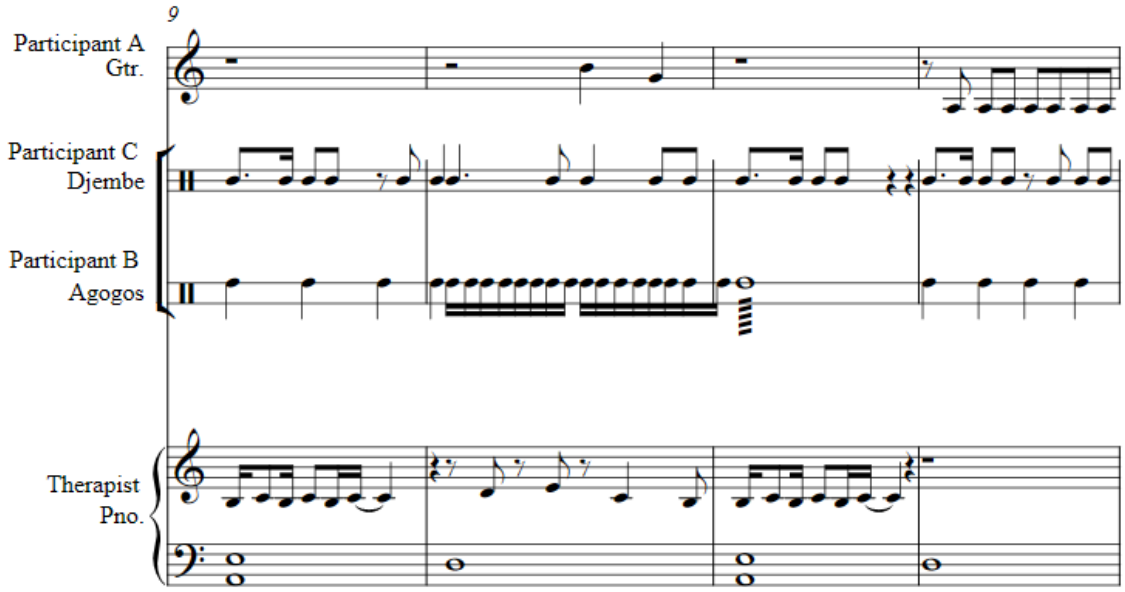


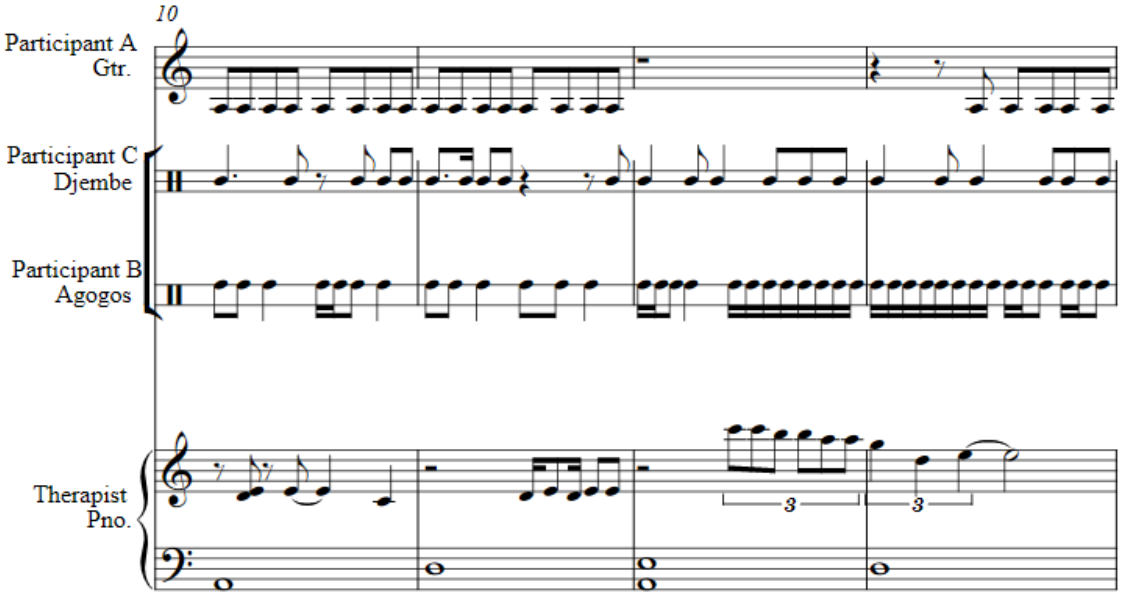

3
Participant A
Gtr.
Participant C
Djembe
mf
Ppt C enters with a repeated rhythm providing an ongoing pulse
Participant B
Agogos
Therapist
Pno.


All start to sustain their playing
4
Participant A
Gtr.
Participant C
Djembe
Participant B
Agogos
Ppt B reflects Ppt C's rhythm
3
Therapist
Pno.


7
Participant A
Gtr.
Participant C
Djembe
Participant B
Agogos
3
Therapist
Pno.


8
All play in synchrony to a shared pulse in 4/4
Participant A
Gtr.
Participant C
Djembe
Participant B
Agogos
Therapist offers a melody and repeats it with slight variation
Therapist
Pno.


9
Participant A
Gtr.
Participant C
Djembe
Participant B
Agogos
Therapist
Pno.


10
Participant A
Gtr.
Participant C
Djembe
Participant B
Agogos
Therapist
Pno.
3
3

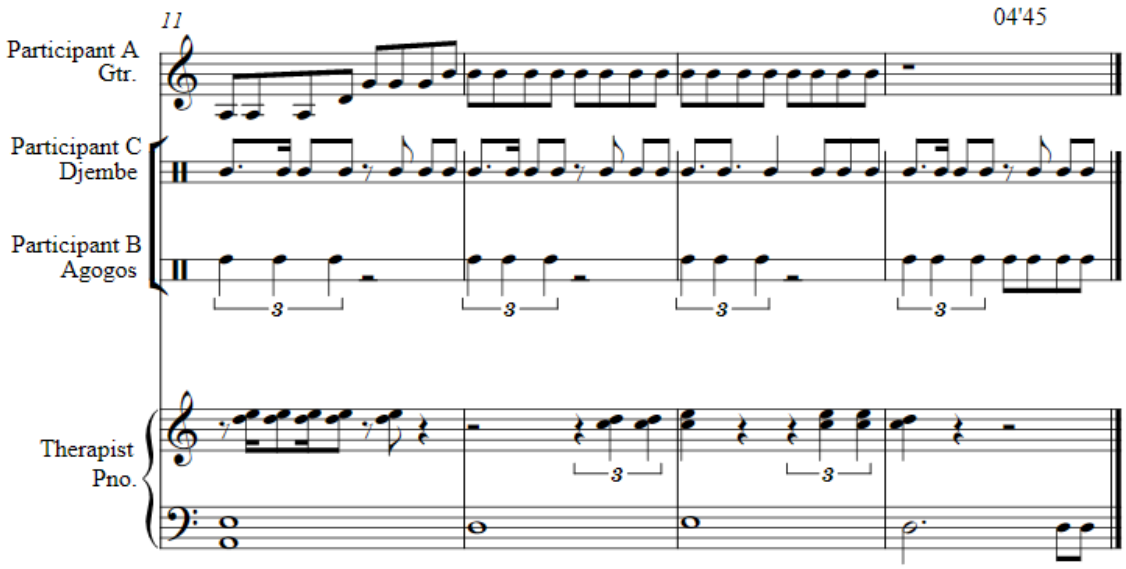


Figure 6.3 Excerpt from group improvisation moving from unpulsed to synchronised playing

6.10.2 The role of precomposed music and singing

Singing appeared to play a particular role in terms of emotional expression and engagement. Precomposed songs familiar to the patient allowed them to share aspects of their identity and to reflect afterwards upon memories and feelings arising from this. It was notable that therapists often suggested sharing a precomposed song as a means of encouraging and prolonging engagement and reducing anxiety. Improvised singing (including rap) could develop from the sharing of a precomposed song, arise naturally after the therapist modelling this or, less frequently, from patients' own volition. Improvised singing requires quick and spontaneous responses, without the need for fully formed ideas or sentences to make sense. This may have enabled patients to begin to formulate and express ideas and feelings, which could later be reflected on more fully in discussions.

An example of this followed from the improvisation in the transcription provided above. This improvisation continued, with the group moving in and out of synchrony. Techniques to bring the group back together included the therapist changing the style of her playing to reggae, following the clearest pulse provided by a group member and group members exchanging instruments themselves. A fifth participant (E) returned to the room during this improvisation. As the group found a clear pulse (provided by Participant E on the gathering drum), Participant B began to add 'whoops', which the therapist then mirrored. The therapist offered a simple

melody which was reflected by Participant B. She then offered a counter-melody which was picked up by two other members of the group and they sang this together at different pitches, creating a harmony. Participants C and E offered lower repeated notes, whilst participant B returned to the original melodic phrase, alternating in dialogue with the therapist. The rhythm on percussion was cohesive and synchronised. Participants B, C and E improvised around this melody, singing counter-melodies. Participants C and E began to laugh. A joint end was initiated when Participant C exclaimed that his hand was hurting from playing the djembe. As the music ended, Participant D stood up with his hands in the air and exclaimed 'Happy birthday to everybody!' turning around on the spot.

This improvisation was reflected upon verbally. Following from the idea suggested by Participant C of being in pain from playing, one participant suggested that the music is 'pain relief' and that there was pain in the singing. Another suggested whilst the music had a lot of pain, it also had 'a lot of rejoicing'. Both of these reflections indicate that singing enabled them to put a voice (although not words), to express feeling states, both painful and happy.

From the therapist's perspective, this improvisation formed an important event for three participants: one for suggesting a way to manage the loudness of an instrument, one for demonstrating awareness of himself in the group's music and one for being able to play with the group rather than just at the same time. This improvisation also featured in four of the five participants' significant events. From their comments it could be seen that the number of people attending the group had been helpful. One suggested that this improvisation had enabled him to "get lost in the rhythm" and improved his mood. He also suggested that "being with people and feeling wanted" was an important experience. A further participant repeated that "the vocals were about our pain". He described the music as "together" with all taking part and exchanging instruments. For this participant, this enabled his voices to be "drowned out". The final participant stated that the therapist's singing brought the session "to a next level" and he had found this improvisation particularly enjoyable. The session was rated highly by all participants (appraisal scores ranged from 12 to 15).

6.11 Conclusion

This study has developed a theoretical model of intensive group music therapy processes for acute adult psychiatric inpatients. The model suggests that music therapy plays a role in motivating and engaging patients, assisting patients in managing their emotions and social interactions and providing an experience which can then assist patients in their verbal communication and expression of their situation. Whilst many of these processes involved focusing on problems and difficulties, music therapy also appeared to play an important role in providing patients with experiences of enjoyment, fun, learning and achievement. Such a role was implicated with motivation to pursue music once discharged from hospital. Active music making appears to be the main mechanism by which these processes take place, with musical and group cohesion at its centre. Experiences of group synchrony and joint musical endings may therefore be hypothesised as two further mechanisms to those of music as motivating, musical interaction, precomposed music and singing postulated by Gold et al. (2009) and Mössler et al. (2012) as discussed in chapter 3. To date, these variables have limited evidence for their effects. In line with the thesis aims outlined in chapter 2, the next step therefore is to examine whether associations exist between these hypothesised variables and outcomes of relevance to hospitalised inpatients. As suggested in chapter 4 of this thesis, immediate outcomes of relevance are patient subjective appraisals and attendance of sessions. An examination of such associations will be the focus of the studies in the following chapter.

CHAPTER 7: Multilevel modelling of processes and outcomes of intensive group music therapy for acute adult psychiatric inpatients

7.1 Introduction

The focus of this chapter is upon the modelling of associations between processes and outcomes of group music therapy. The chapter consists of two related studies: The first seeks to describe associations between features of the music therapy group, patient characteristics, patient appraisal, motivation and commitment to the group. The second examines patterns of attendance across the varying frequencies of group and seeks to describe associations between the content of a single session of music therapy and attendance of the following session.

The study presented in chapter 6 postulated a model of intensive group music therapy processes and outcomes based upon the experiences and significant events of acute adult psychiatric inpatients and music therapists. The model suggests that active music making, musical group synchrony, group attendance and group membership are potentially plausible mechanisms by which patients achieve improvements in mood, emotional regulation, interpersonal interactions, relationships and symptoms. The model was developed based on multiple responses from patients and therapists to sessions, and microanalytic coding of 72 group music therapy sessions. The studies presented in this chapter sought to examine quantitatively whether any associations exist between the features of music therapy coded from the videos and the following outcomes: patient appraisal, commitment to the group, and motivation for change. Such a quantitative examination would provide evidence as to whether such associations exist between processes and outcomes and the direction and magnitude of any such associations.

Whilst many of the components of interest may not be unique to the acute psychiatric inpatient setting, the intensive provision of group music therapy (ie. three times per week) is something that is uncommon within NHS settings in the UK. As noted in the systematic review in chapter 3, and the findings of chapter 6, engagement of inpatients in therapy is challenging, given the severity of symptoms, medication side-effects and large numbers of patients presenting with negative symptoms. In line with the first aim of this thesis a second study therefore sought to examine whether intensive provision of group music therapy is acceptable to and taken up by patients. Acceptability was determined by examining patterns of attendance, patient views regarding their experiences of intensive provision and modelling of

associations between components of music therapy sessions and subsequent attendance of the following session.

Considering the contextual model of psychotherapy (Wampold, 2001), this study acknowledges that factors outside of the music therapy sessions themselves, or shared with other therapies may play a greater role in explaining outcomes than specific features of music therapy alone. The model presented in chapter 4 (figure 4.2), and subsequently developed in chapters 5 and 6 (figures 5.1 and 6.2) suggests that patient and therapist features as well as patient motivation for change and commitment to the group will be implicated in this model. In order to determine whether associations between these factors exist, features hypothesised as important (derived from patient reports of helpful and unhelpful factors) were coded from videos of music therapy sessions. A summary of the model and variables to be tested in this chapter is shown in figure 7.1 and will now be explained below.

It was hypothesised that patient appraisal of the session would be determined by the experience of specific features within the music therapy session itself. In particular, the greater the duration of time the patient spent playing music, the duration of group synchrony and number of joint musical endings would be associated with a positive appraisal. Conversely, high levels of disruption, longer durations of time on their own, longer durations of silence and low numbers of people attending the group would be associated with lower or negative appraisal. Such an appraisal would then influence patient commitment to the music therapy group (in the sense of a therapeutic relationship to the group) and their motivation for change. The level of commitment and motivation felt by the patient was then hypothesised to be associated with whether or not the patient attended the following session. If repeated negative experiences occurred, this would lead to the patient dropping out of music therapy, whereas repeated positive experiences were hypothesised to lead to continued engagement. Given current evidence regarding a dose-effect response between the number of music therapy sessions and clinical outcome (Gold et al., 2009), it might therefore be hypothesised that continued engagement would lead to social and behavioural improvement, subsequently impacting upon symptom severity and clinical improvement. The first study sought to test the first two hypotheses ie.:

1. Patient appraisal, motivation and commitment to the group are associated with specific features of group music therapy
2. Patient appraisal, motivation and commitment to the group are associated with each other

The second study sought to test the third hypothesis:

3. Patient appraisal, motivation and commitment to the group are associated with attendance of the following session

As the nature of the relationship, (if any) was unknown, associations between appraisal, commitment and motivation were examined in combination, thus appraisal was an outcome for the first model, but then used as a predictor (independent variable) for commitment and motivation. This provided a means of assessing whether associations were unique to one pair of variables, shared between all three variables or bi-directional (each variable has a strong association with the other). Similarly, as the effect of the differing group frequencies upon outcomes was unknown, associations between group frequencies and outcomes were examined as predictors in each of these models. Finally, when modelling attendance, associations between music therapy components and patient characteristics were also explored to ascertain whether any were significantly associated with subsequent attendance and the direction of this association.

Within the MRC framework for developing complex interventions (MRC, 2008), the studies presented in this chapter may therefore be classified as 'modelling of processes and outcomes'.

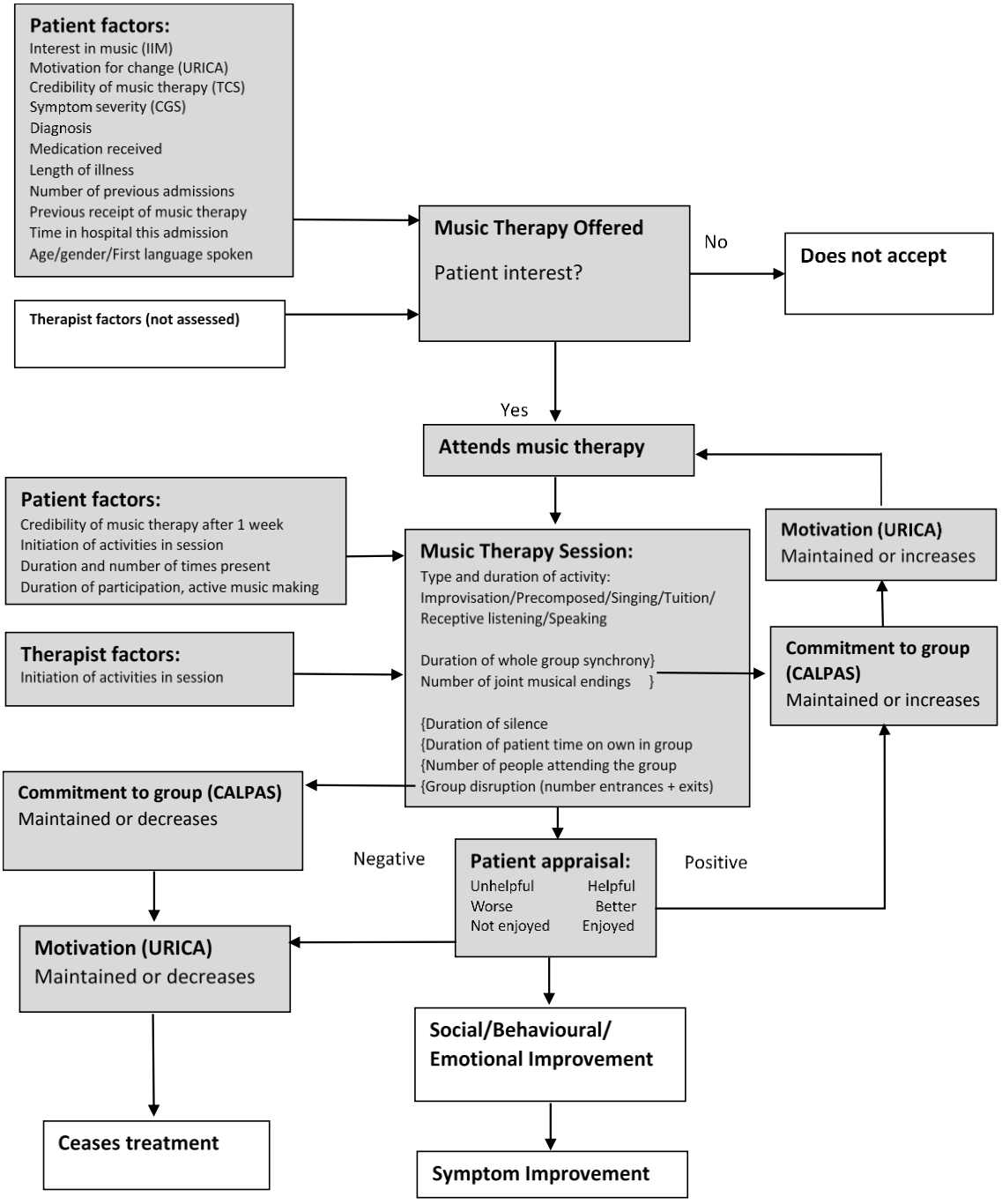


Figure 7.1 Hypothesised model of music therapy engagement and variables measured

7.2 Aims and objectives

7.2.1 Study 1: Modelling of intensive group music therapy components upon outcomes of patient appraisal, commitment to the group and motivation for change in acute adult psychiatric inpatients

This study sought to test the model developed in chapter 6 of this thesis by modelling associations between components of music therapy and the outcomes of patient appraisal, motivation for change and commitment to the group after the session. In particular to identify the magnitude and direction of any associations between:

a) patient appraisal of the group
b) patient commitment to the group
c) patient motivation for change
d) features of music therapy sessions as coded in chapter 6
e) patient baseline demographic and clinical characteristics including treatment credibility, initial motivation for change and interest in music

7.2.2 Study 2: Acceptability and modelling of attendance in intensive group music therapy for acute adult psychiatric inpatients.

This second study sought to extend the model in study 1 by assessing acceptability of intensive group music therapy to acute adult psychiatric inpatients and modelling associations between the same music therapy components and the outcome of attendance of the following session. In particular the study objectives were to:

a) Determine the extent to which patients make use of a greater frequency of sessions by examining patterns of attendance and descriptive data on reasons for non-attendance
b) Explore patients' views regarding the frequency of sessions
c) To build a model of attendance by examining associations between music therapy components and attendance of the following group, accounting for patient characteristics including baseline clinical and demographic, patient appraisal of the previous session, commitment to the group, motivation for change and group frequency.

In line with the first and third aims of this thesis, the outcomes of this study will provide a clear model of the magnitude and direction of any associations between music therapy processes, patient characteristics and outcomes of intensive group music therapy, including information

regarding its acceptability and associations between features hypothesised as clinically important for an acute inpatient setting.

7.3 Methods

7.3.1 Design

A prospective cohort study utilising repeated quantitative measures and multilevel modelling. The studies contained in this chapter both follow on from the study conducted in chapter 6 of this thesis and utilised the same participants and music therapy groups, with data collected over the same time period. Simultaneous data collection provides the advantage that the findings from this model will be directly comparable to the model developed in chapter 6 as data were collected from the same participants from the same music therapy groups. Details regarding inclusion and exclusion criteria, the setting, intervention and methods of recruitment are as presented in chapter 6.

7.3.2 Sample size calculation

A sample size calculation was conducted during the design of this study to ensure that the sample size would be adequate to provide enough statistical power to detect a medium effect on patient appraisal. A sample size calculation was performed to detect small, medium and large effect sizes, as estimated from the coefficient of determination value obtained from multiple linear regression models fitted to data (Cohen, 1988).The full sample size calculation is attached in Appendix D. To detect a medium effect on patient appraisal, with 80% power and p=0.05, based on an intracluster correlation coefficient of 0.10 for clustering by therapist, a sample size of approximately 150 patients was required. This calculation took into account potential for 15% loss to followup.

The pragmatic considerations for this study led to use of a convenience sample, recruited from inpatient services across three sites within East London Foundation NHS Trust. The calculation assumed an average inpatient hospital stay of 4 weeks and an average of 4 patients in the group at any one session. The inclusion of 150 participants was therefore estimated to allow examination of 4 data points, providing approximately 600 patient responses to 120 unique sessions over 6 months.

7.3.3 Procedure

In conjunction with the study measures in the previous chapter, a range of measures were taken at baseline, at weekly time points during the course of music therapy, and at the end of therapy. As noted in chapter 6, the lack of data identified in month 3 of the study led to the candidate attending the wards of two sites more frequently to maximise the number of

measures collected. As this study did not plan to include time as a variable in the model, and as multilevel modelling is generally robust to unbalanced data (ie. missing data between time points) this was not anticipated to have an impact upon the model that was to be defined.

7.3.4 Measures

Measures were taken in addition to those collected in chapter 6 of this thesis. All patient reported measures were completed by participants with the candidate.

Baseline measures

Clinical and sociodemographic data of age, gender, diagnosis, number of days in hospital at point of consent, length of illness and first language were recorded from participants' clinical records after consent was obtained. If participants were transferred out of their ward during their hospital admission, the date of leaving, and where applicable, return to the ward was recorded.

Clinical Global Impression of Severity and Improvement

The clinical global impression of severity (CGS) was taken as an overall measure of clinical severity of illness and was repeated again on the patient leaving the study along with the accompanying clinical global impression of improvement (CGI; Guy, 1976). The scale is widely used in clinical practice and provides a measure of overall symptom severity and improvement regardless of diagnosis. The measure was used in this study as a means of controlling for and examining associations between symptom severity at baseline and appraisals of music therapy sessions.

Interest in music

The Interest in Music Scale (IIM, Gold et al., 2012), was used as a means of assessing participants' current interest in and use of music. For the present study, this was measured to examine whether any associations existed between the baseline level of interest and use of music and patient outcomes. The scale was developed by music therapists and assesses interest over two domains: Pro-social interest in music and social avoidance of music. The scale has 12 items rated on a 5 point Likert scale. Items are summed to provide two scores for the subscales, with scores ranging from 1-50 for interest and 1-10 for avoidance. Internal consistency was high for both domains (α=0.89 and 0.77) with test-retest reliability intra-class correlation coefficients ranging between 0.61-0.85.

Treatment credibility

The perceived treatment credibility scale (Borkovec & Nau, 1972) was used to assess patients' perceptions of how credible music therapy was as a treatment prior to commencing treatment, and again after 1 week of music therapy. For the present study this was measured to examine whether there were any associations between patient perceived credibility of music therapy as a treatment and ensuing appraisals of sessions. Given that music therapy may be perceived either as an 'alternative' therapy or as a musical endeavour in itself, it was felt that it would be particularly important to account for this, both as a confounding factor and as additional information in its own right. The scale has four items rated on a 5 point Likert scale which are summed to provide a score of between 4-20 and has high internal consistency (α=0.88).

Motivation for change

Two subscales from the University of Rhode Island Change Assessment Scale (URICA) (University of Rhode Island, 2013) were used as a measure of patient motivation for change. The scale was developed originally in addiction populations based upon stages of change theory, which suggests that there are four discrete stages for readiness for change, when commencing therapy: Precontemplation, contemplation, action and maintenance. In its original form, the scale has 36 items, of which precontemplation and contemplation form 8 items each. Items are self-rated by the participant on agreement on a 5 point Likert scale and then averaged. Predictive validity, reliability and sensitivity for change has been shown for a range of mental disorders (Dozois, Westra, Collins, Fung & Garry, 2004; Hasler, Klaghofer & Buddeberg, 2003). The precontemplation and contemplation subscales were used in similar inpatient populations for a music therapy study by Gold et al., (2013), who found good internal consistency (α=0.88). However, the authors note that the individual categories for stages of change have been criticised for a lack of evidence that these domains are mutually exclusive or represent sequential progression between stages (Littell & Girvin, 2002). To address this, Gold et al. (2013) used the sum score as a general measure of motivation, with pre-contemplation scale scores reversed. This approach was taken for the current study.

Process measures

Process measures of patient appraisal of the session, motivation for change (URICA, as above) and commitment to the group were completed after music therapy sessions. The purpose of these process measures was to assess patients' response to music therapy sessions in order to examine associations between the content of music therapy sessions and their impact upon the patient.

Patient Appraisal

Patient appraisal was measured using the 3 items in the 'Experiences of music therapy questionnaire' developed in chapter 5 and outlined in chapter 6. Three items were rated on a 5 point Likert scale to assess patients' appraisals of helpfulness, enjoyment and whether they felt better or worse after the session. Ratings were summed with a possible range from 3-15 and internal consistency of α=.758. The scale was demonstrated to have good face validity with patients within this population, which was an important consideration given the repeated measures and severity of symptoms.

Commitment to the group

The commitment subscale of the California Psychotherapy Alliance Scale – Group version (CALPAS-G; Gaston & Marmar, 1993) was used to measure how committed the participant felt to the music therapy group. The subscale has 7 items rated on a 7 point Likert scale which are summed providing a score of between 7-49. The scale is one of only a few measures of group alliance and was chosen as it was brief to complete with good face validity. The scale has good internal consistency as a whole (α=0.89; Gaston, 1991) although a study published after the completion of this study found that the subscale of patient commitment has internal consistency just below that which is generally considered 'good' (α=0.68) (Delisgnore et al., 2014).

Components of music therapy

Components of music therapy identified and rated in chapter 6 of this thesis were used to examine associations between patient characteristics and as predictors of appraisal, motivation and commitment scores. Type of musical activity and its duration, number of initiations by the participant, therapist and other patients (in total and for each type of activity), duration of music making by the participant, duration of whole group synchrony, number of joint musical endings, patient number of times in the group and total number of entrances, exits and disruptions to the group were entered into the model. Ratings were taken from 72 sessions, which were attended by 83 participants, 72 of whom provided appraisal ratings for that session providing a total of 162 patient responses.

Measures of group experience

The Ferrara Group Experiences Scale (FE-GES; Caruso et al., 2012) was used as an endpoint measure to gain a sense of the types of group experiences had by participants in the music therapy group.

7.3.5 Statistical Analysis

Statistical analysis was completed in a number of stages, using STATA SE, version 13.0. Descriptive statistics were generated for each of the measures to gain a sense of the overall spread of scores and response rate. An analysis of patterns and possible reasons for missing data was then conducted by examining patterns of missingness and number of followups completed per participant. For the multilevel modelling, the full dataset was reduced so that only responses with an appraisal score were kept. As the study used repeated measures with participants over time, with participants in different therapy groups, a multilevel model was employed to account for correlations between individual measurements and individual therapist effects. For the modelling of appraisal, the model was set up so that individual observations were nested in therapist sessions, which were nested in therapists. This three level model the ensured that clustering of appraisal ratings for the same session was taken into account. An alternative arrangement could have been observations, nested in participants, nested in therapists although this would have required participant characteristics to have been accounted for in level 2 of the model and would not have accounted for clustering by therapist session number.

7.3.5.1 Univariate multilevel analysis

Associations between all variables and outcomes of patient appraisal, motivation and commitment to the group, were assessed using univariate 3 level multilevel linear regression. Associations with a significance $p<.1$ were retained for multivariate analysis, with those with a significance of $p.<05$ highlighted.

7.3.5.2 Multivariate multilevel analysis

Multivariate analysis proceeded by first generating an empty model ('null') model for the three outcomes (appraisal, motivation for change and commitment to the group) with levels of observation at level 1 and therapist session number at level 2. A 3 level model was then examined incorporating therapist as a third level. Log likelihood tests were used to assess the extent to which these 3 level models differed from ordinary linear regression and the model chosen accordingly.

The predictors were then examined in block-wise steps as suggested by Snijders & Bosker (2012, pg.105) and operationalised by Barnicot (2012) in similar process outcome research. Variables significant at a univariate level were entered by groups in stages, with music therapy components first, followed by hypothesised mediating variables (the remaining two out of patient appraisal, commitment and motivation) and finally baseline socio-demographic and

clinical patient characteristics. By entering variables in blocks, the relative importance of predictors in each group could be ascertained, prior to accounting for the set as a whole. With music therapy components in particular, as the types of variables were similar (for example, number of entrances, exits and total disruption) entry in blocks enabled selection of only those variables that were independently associated with outcome and thus avoiding collinearity between variables. The significance of variables at each stage was noted along with the proportion of explained variance (R^2) of the model, and of the variable itself (F^2) . For both of these measures, a larger value indicated a greater proportion of variance explained. However, it should be noted that with such measures it is possible to obtain a negative value (indicating that the amount of unexplained variance has increased) or values greater than 1 (indicating that the variance in the new model has substantially reduced overall). Such problems are noted in the literature and it is therefore recommended that these values are used as approximations of the level of effect and to be interpreted cautiously (Snijders & Bosker, 2012). As such, these measures were used to gain an overall sense of which variables or models contributed the most or least to a model.

As variables were entered in blocks, rather than individually, a likelihood ratio test could not be used as this relies upon the model differing only by one variable at a time (Snijders & Bosker, 2012). Instead, Akaike's Information Criterion was used as an overall measure of model fit, whereby smaller values indicate a better fit (Snijders & Bosker, 2012). If group frequency was found to be significant at a univariate level, this was entered after the final model had been fitted and tested against the full model for its impact upon variance explained and model fit. The final model was examined for normality and linearity of residuals and a sensitivity analysis performed with imputed missing data.

7.3.6 Sensitivity analysis and missing data

Multilevel modelling is generally assumed to be robust to small levels of missing data (Field, 2009). However, the reasons why the data is missing may be related to the constructs that are being measured. In the case of this study for example, patients with low motivation or high side effects from medication may have been less inclined to complete the questionnaires and therefore did not complete all measures. In order to address this, Snijders & Bosker recommend analysing possible reasons for missing data and examination of patterns (2012, p.131). Variables where data is missing for reasons independent of the data (for example, the video camera failing) may be assumed to be *missing completely at random* and ignored, resulting in only a loss of statistical power. However, if variables within the model are found to be predictive of an item being missing, the data may be considered *missing at random* and the missing item may be predicted from these variables through multiple imputation. The third

case, *missing not at random,* describes the situation where data missingness depends upon variables not observed within the dataset itself. An example of this might be a lack of rapport between the candidate and the patient, leading the patient to decline completing the questionnaires. Such a reason was not measured within this study and it is therefore impossible to know whether this is actually the case or not. Snijders & Bosker suggest examination of the dataset for reasons of missingness. If an association is found between variables measured within the dataset and the probability of the item being missing, multiple imputation of the dataset is recommended. As the dataset had many varying quantities of missing data, multiple imputation was used in a sensitivity analysis to check whether this missing data had an impact upon the overall findings. As the video data for the music therapy sessions had been purposively selected by the candidate, missing data for the music therapy components could not be assumed to be missing at random, although this assumption was possible for patient reported outcomes, where data missingness was associated with medication for patient appraisal, and frequency and therapist for patient motivation. Analysis proceeded on the original dataset and was then compared with the imputed dataset to ascertain whether missing data had an influence on the results.

7.4 Study 1: Results

7.4.1 Sample description

The overall flow of study participants and baseline clinical and demographic characteristics of the sample is presented in chapter 6. Of the 114 patients enrolled in the study, at least one measure of patient appraisal was available for 96 participants with 400 patient appraisals available in total for analysis.

7.4.2 Descriptive statistics

Summary descriptive data for outcome measurements of appraisal, motivation, commitment to the group and baseline characteristics are presented in table 7.1. Mean scores for each session and by site are presented in figures 7.2 a-f.

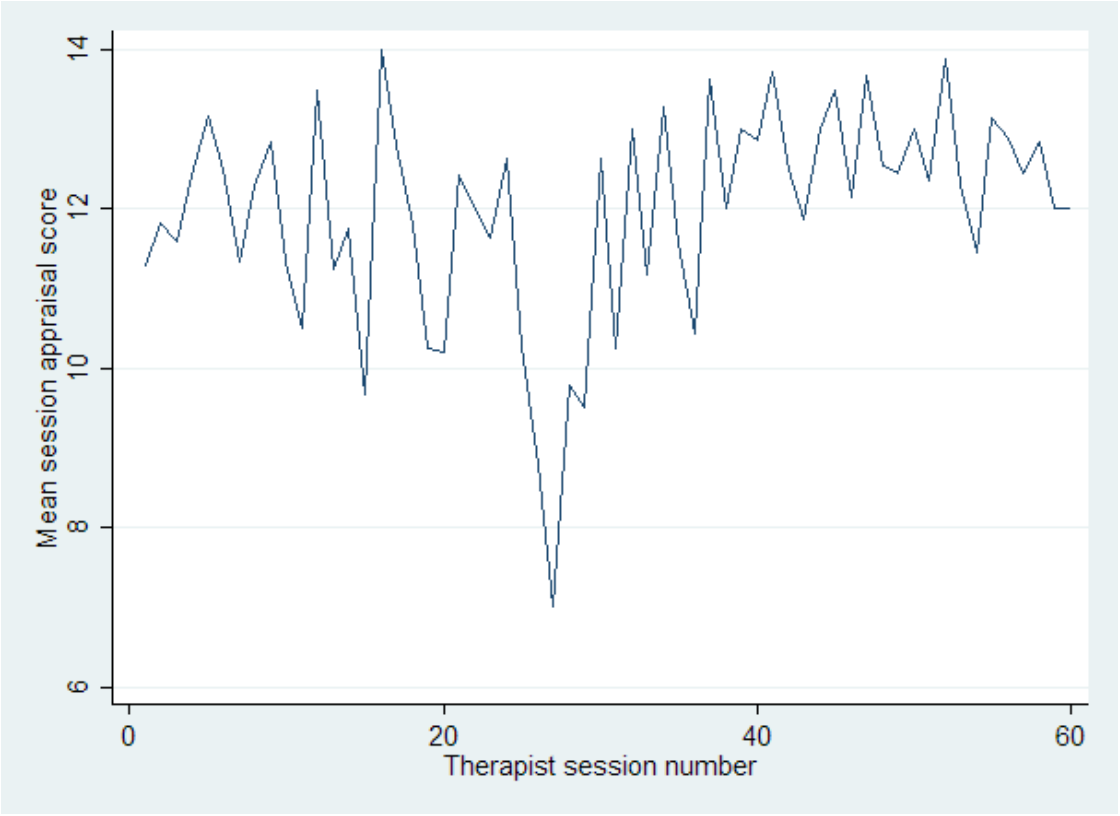


Figure 7.2(a) Mean appraisal by session number

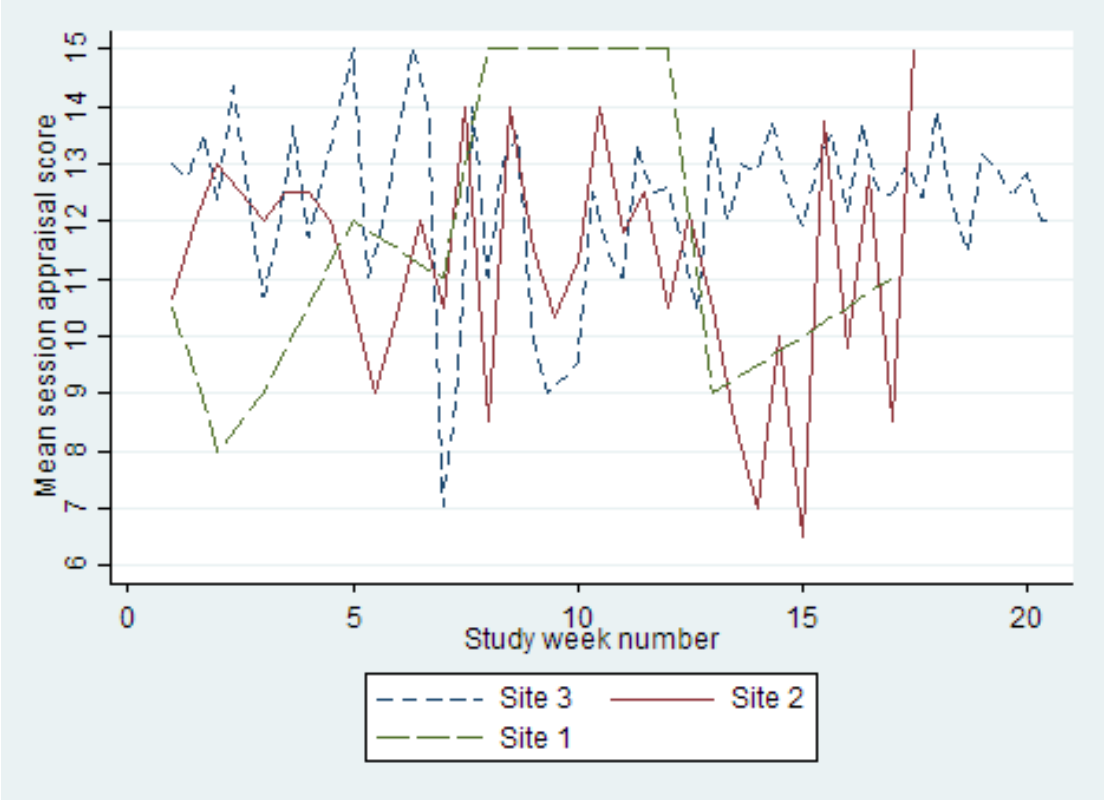


Figure 7.2(b) Mean appraisal by site

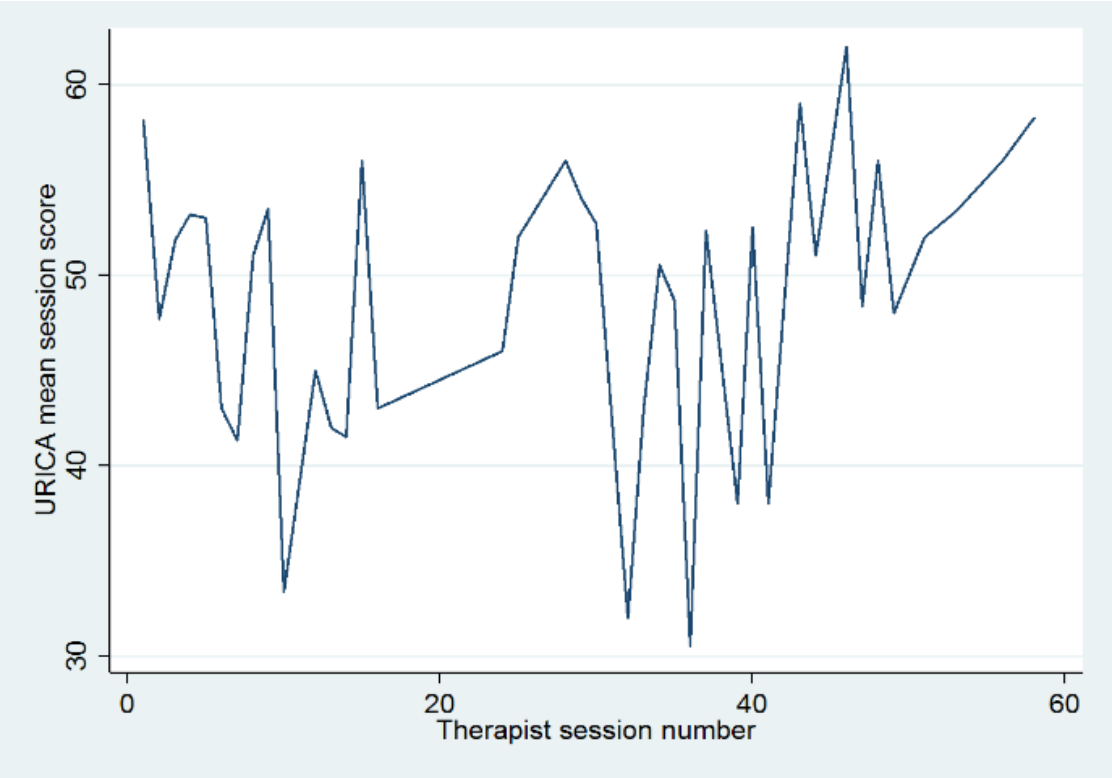


Figure 7.2(c) Mean motivation by session number

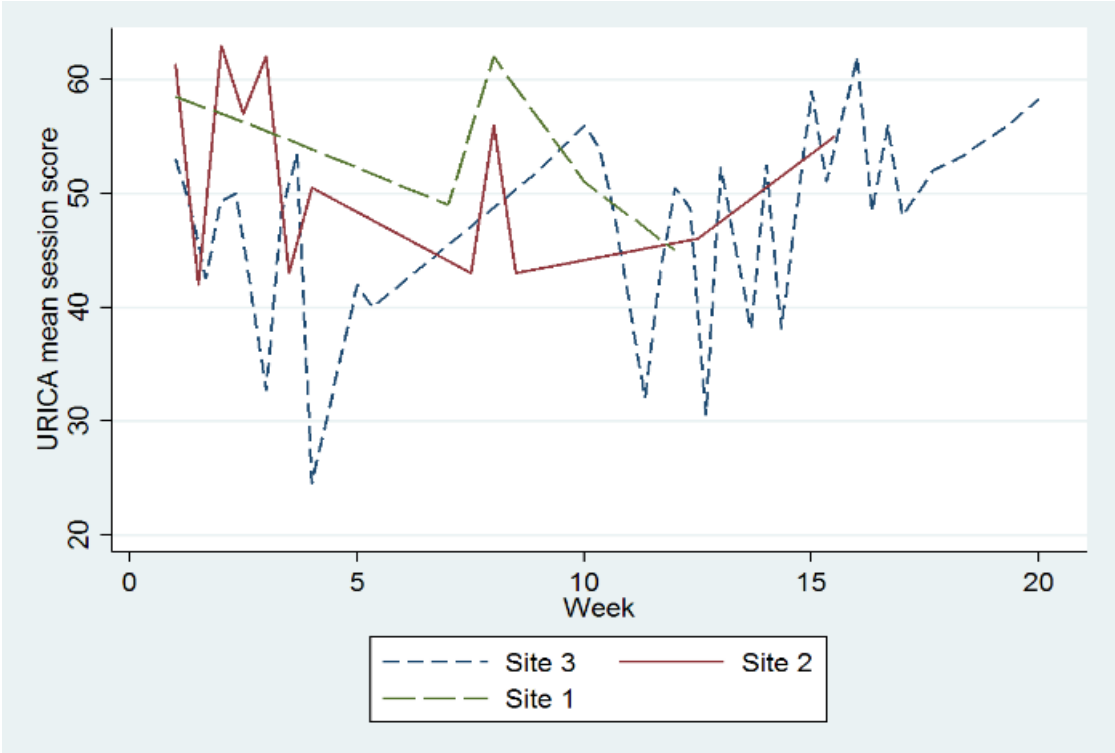


Figure 7.2(d) Mean motivation by site

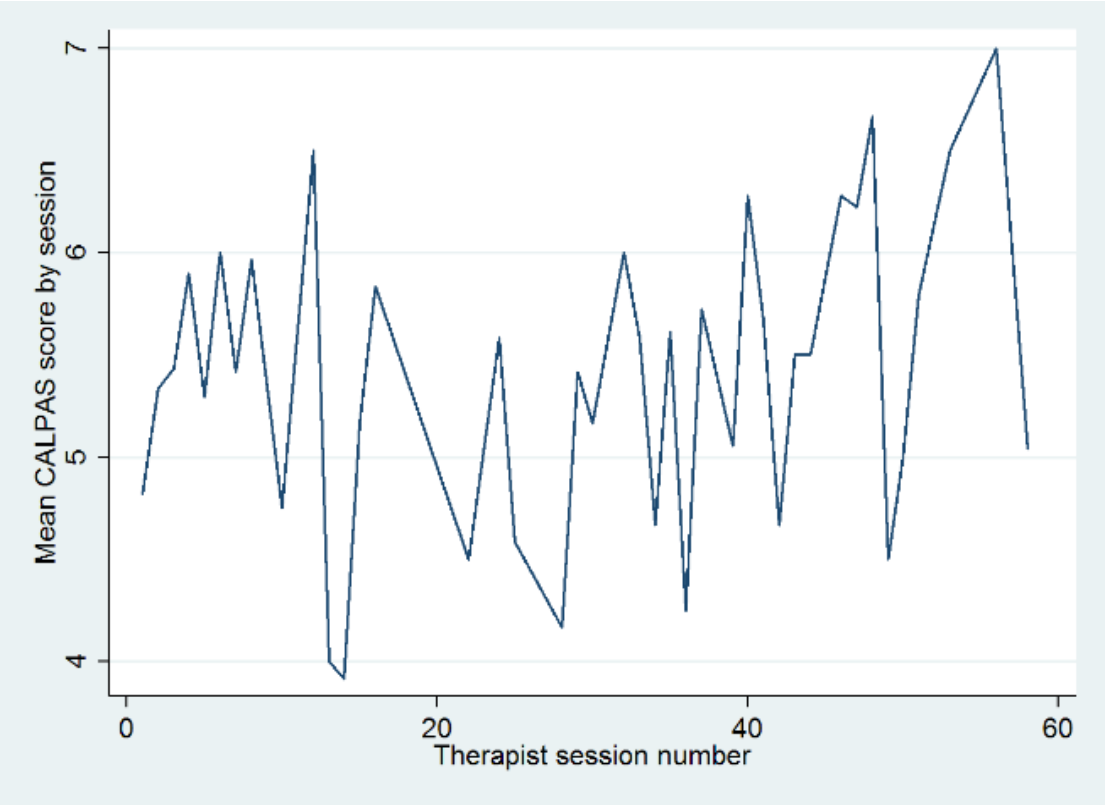


Figure 7.2(e) Mean commitment to group by session

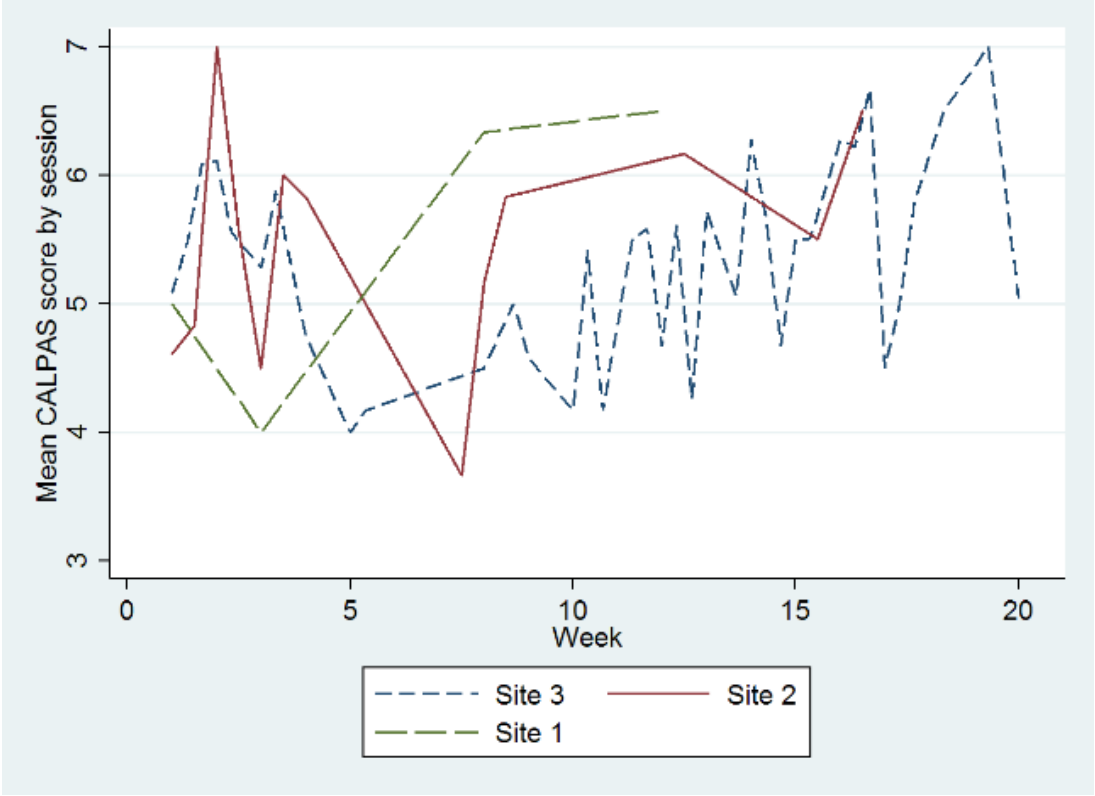


Figure 7.2(f) Mean commitment by site

Outcome	Variable	N obs	N ppts	Mean /N	Std.Dev/ %	Min	Max
Time varying							
Outcomes / mediators	Appraisal of session (study 1)	399	95	12.00	2.42	4	15
	Commitment to group (study 1)	101	29	5.54	1.00	3.5	7
	Motivation for change (study1)	97	30	51.20	11.87	14	68
	Attended next session (study 2)	383	94	219	57%	0	1
Fixed (time invariant)							
Demographic	Age	-	96	36.40	11.75	18	63
	Male gender (N, %)	-	96	62	65%	0	1
	English first language (N, %)	-	96	75	78%	0	1
Clinical	Primary ICD10 diagnosis	-	96	-	-	-	-
	N days in hospital at consent	-	96	44.35	61.81	1	412
	Length of illness (years)	-	93	10.58	10.56	0	45
	N previous hospital admissions	-	95	3.11	3.57	0	16
Medication	Hypnotic/anxiolytic	-	96	58	60%	0	1
(N, %)	Antidepressant	-	96	22	23%	0	1
	Mood stabiliser	-	96	19	20%	0	1
	Antipsychotic	-	96	85	89%	0	1
	Substance withdrawal	-	96	4	4%	0	1
	Extrapyramidial	-	96	19	20%	0	1
Baseline	Previously attended MT (N, %)	-	96	23	24%	0	1
	Baseline clinical global severity	-	95	5.29	0.80	3	7
	Baseline interest in music	-	92	37.03	8.52	10	50
	Baseline avoidance of music	-	92	5.90	2.40	2	10
	Baseline treatment credibility	-	83	15.90	4.23	4	20
	Baseline motivation for change	-	71	51.25	10.66	18	70
Endpoint	Number of sessions attended	-	96	6.16	6.33	1	34
	Endpoint Clinical global impression-severity		95	3.86	1.01	1	7
	Endpoint Clinical global impression-improvement	-	95	2.47	0.90	1	5
	Endpoint Interest in music	-	35	37.26	6.24	22	50
	Endpoint avoidance of music	-	33	5.21	2.62	2	10
	Treatment credibility (timepoint 2)	-	62	16.52	3.36	8	20
	FES Emotional experiences	-	36	8.25	4.63	0	16
	FES Relationships	-	36	9.44	4.02	1	16
	FES Difficulties in open expression	-	36	11.03	4.35	2	16
	FES Group learning	-	36	8.61	4.37	0	16
	FES Cognitive improvement	-	36	11.08	4.14	4	16
	FES Total score	-	36	48.14	14.75	14	76
Group variables	Group frequency	-	96	-	-	1	3
	Therapist	-	96	-	-	1	5
	N participants in group	403	96	3.16	1.40	1	7

Table 7.1 Baseline clinical and sociodemographic data and participant endpoint data

7.4.3 Missing data

A description of data available per each participant assessment is described in table 7.2. Complete data was available for baseline socio-demographic data and attendance data whilst 96 participants provided at least one measure of session appraisal. The symptoms and side effects participants experienced meant that many struggled to complete the full set of questionnaires. It was not always possible to complete questionnaires with patients when they were too drowsy or were experiencing difficulties on the ward. This may have also impacted upon collection of negative responses, as unhappy participants may have been less likely to consent to meeting or discussing the group. Priority was given to completion of the appraisal questionnaire as this was the primary outcome for the study. Patients usually consented to completing these as they were quick to complete and could give verbal responses to the candidate for the free response questions. Some participants objected to completing the measure of motivation (URICA), and some were guarded in answering questions regarding whether they felt they needed treatment. The lack of endpoint data may be related to the short lengths of stay in hospital. Discharge of patients often occurred quickly with little warning. For the site with music therapy once a week, this often meant that if the candidate was unable to contact them on the visit she was there, the outcome would be lost for that week, and the patient subsequently discharged. Similarly, once discharge had been agreed, patients were often utilising leave or making preparations in the community and therefore not present on the ward. If participants had consented, the candidate posted final packs of questionnaires to those who had been discharged. Half of the endpoint measures were obtained in this way, whilst 16 were obtained in the course of the end of therapy interviews. Analysis of the number of observations for each time point (table 7.3, highlighted) revealed that for time points 34, 35, 41-52 and 54-58, no measures were completed. This was due to one participant with a long hospital stay who disengaged from music therapy, but then returned close to the end of the study. Patterns of data missingness for appraisal, motivation and commitment demonstrated that the majority had completed appraisals only. Complete sets of data comprising of appraisal, commitment to the group and motivation were available in 85 assessments (table 7.4).

7.4.4 Data preparation

Checks of the distributions of data revealed that all of the variables were highly skewed which may have led to non-symmetrical distributions of residuals in the modelling. In order to account for this, robust sandwich estimators were employed using the vce(robust) option within Stata which provides robust standard error estimations regardless of the heteroskedasticity or auto-correlation of level 1 residuals (Rabe-Hesketh & Skrondal, 2012).

Table 7.2 Number of participants with data at baseline, endpoint and number of repeated follow-ups per participant (N=114)																					
	N observations per participant																				
Variable	PPTS	BL	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17+	Endpoint
Time-invariant predictors	TOTAL																				
Age	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
N days before consent	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Diagnosis	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Length of illness	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
N previous admissions	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Medication	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Previous music therapy	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
English first language	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Group frequency	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Gender	114	114	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Time-varying predictors																					
Interest in music (IIM)	105	105	9	70	35	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	35
Treatment credibility (TCS)	106	97	8	53	53	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	53
Motivation (URICA)	98	82	16	43	28	10	9	5	2	0	0	0	0	0	1	0	0	0	0	0	34
Commitment (CALPAS)	65	n.a.	49	30	18	9	5	0	2	0	0	0	0	1	0	0	0	0	0	0	34
Clinical severity (CGS)	113	112	1	7	106	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	106
Improvisation duration	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Precomposed duration	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Singing duration	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Speaking duration	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Tuition duration	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.

Receptive listening duration	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Silence duration	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
N Therapist initiations	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
N PPT initiations	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Duration music making	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Synchrony duration	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
N Group End together	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Duration present	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Duration participating	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Session length	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Duration on own	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
N times in group	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
N Disruptions	78	n.a.	36	25	17	13	9	7	1	0	3	1	1	0	1	0	0	0	0	0	n.a.
Outcome variables																					
Attended session	114	n.a.	12	13	22	13	14	9	6	2	0	6	1	1	3	2	0	1	1	8	114
Appraisal (total)	96	n.a.	18	28	23	11	9	6	3	2	1	2	2	3	1	2	1	1	1	0	n.a.
Clinical Improvement (CGI)	107	n.a.	7	108	n.a	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	107
Group experiences (FES)	36	n.a.	78	36	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	36

Table 7.2 Number of participants with data at baseline and endpoint, and number of participants at each repeated follow up

| Timepoint | | |

Appraisal	Motivation (URICA)	Commitment (CALPAS)	Frequency	Percent
0	0	0	966	70.51
0	0	1	0	0
0	1	0	2	0.15
0	1	1	3	0.22
1	0	0	294	21.46
1	0	1	13	0.95
1	1	0	7	0.51
1	1	1	85	6.2
		Total	1,370	100

Table 7.4 Pattern of missingness for outcome variables

7.4.5 Study 1: Modelling of associations between intensive group music therapy components, patient characteristics and outcome of patient appraisal

7.4.5.1 Univariate associations with patient appraisal

Univariate associations between predictors of music therapy, motivation, commitment to the group, patient clinical and demographic characteristics with the outcome of patient appraisal are shown in table 7.5.

Examination of the univariate associations identified commitment to the group, two music therapy components, frequency of group provision, and five patient characteristics that were significantly associated with appraisal of the session. Commitment to the group, duration of singing and duration of whole group synchrony were positively associated with appraisal. Of these, commitment had a medium effect (R^2=.52) (Cohen, 1992) whilst singing and synchrony (both negative R^2) had the effect of increasing the variance. Frequency of three times per week was positively associated with appraisal whilst frequencies of 2 per week and 1 per week had negative associations although these effects were also small (R^2=.01). Patient characteristics predicting a lower appraisal score were those with a longer hospital stay, those on antidepressant and extrapyramidial side effect medication and patients who spoke English as their first language although these all had minimal effects (R^2<.1). This might also therefore be interpreted as a positive association for patients with English as a second language.

Table 7.5 Outcome: Appraisal- Univariate associations with predictors										
Predictor type	Predictor	N L3	N L2	N L1	*B*	95% CI		Std Err	*p*	%var (R^2)
Common process	Motivation (URICA)	5	66	92	.010	-.016	.037	.013	.44	.32
	Commitment to group (CALPAS)	**5**	**69**	**98**	**1.086**	**.796**	**1.377**	**.148**	**<.01**	**.52**
Music Therapy	Improvisation	5	69	161	.001	-.001	.001	.001	.38	-.31
Activity duration	Precomposed	5	69	161	.001	-.002	.004	.002	.43	-.33
	Singing	**5**	**69**	**161**	**.002**	**.001**	**.004**	**.001**	**<.01**	**-.26**
	Speaking	5	69	161	<.001	-.001	.001	<.001	.66	-.33
	Silence	5	69	161	-.002	-.020	.015	.009	.79	-.33
Initiation of activity	Therapist- total	5	69	161	.011	-.032	.053	.022	.62	-.32
	Patient- total	5	69	161	.008	-.032	.048	.020	.69	-.33
	Others- total	5	69	161	.009	-.022	.041	.016	.56	-.32
Improvisation	Therapist	5	69	161	-.021	-.226	.185	.105	.85	-.33
	Patient	5	69	161	.116	-.092	.325	.107	.27	-.33
	Others	5	69	161	.031	-.050	.111	.041	.46	-.32
Precomposed	Therapist	5	69	161	.226	-.053	.506	.143	.11	-.31
	Patient	5	69	161	.060	-.234	.354	.150	.69	-.33
	Others	5	69	161	.068	-.061	.196	.066	.30	-.36
Singing	Therapist	5	69	161	.057	-.020	.133	.039	.15	-.32
	Patient	5	69	161	.037	-.214	.288	.128	.77	-.30
	Others	5	69	161	.020	-.103	.143	.063	.75	-.34
Speaking	Therapist	5	69	161	-.012	-.067	.042	.028	.65	-.33
	Patient	5	69	161	-.007	-.030	.015	.011	.53	-.33
	Others	5	69	161	.012	-.028	.051	.020	.56	-.31
Patient participation	N times in group	5	69	161	-.003	-.551	.544	.280	.99	-.33
	Duration present	5	69	161	<.001	-.001	.001	<.001	.38	-.32
	Duration participating	5	69	161	.001	-.001	.001	<.001	.23	-.29
Music	Duration ppt plays music	5	69	161	.001	-.001	.002	.001	.16	-.27
	Duration synchrony	**5**	**69**	**161**	**.003**	**<.001**	**.005**	**.001**	**.03**	**-.28**
	N joint endings	5	69	161	.470	-.163	1.111	.325	.15	-.33
Group	N ppts in group	5	171	399	-.003	-.089	.083	.044	.95	8.35
	Time on own	5	69	161	-.002	-.001	.001	.001	.67	-.33
	N entrances	5	69	161	-.099	-.390	.192	.148	.51	-.31
	N exits	5	69	161	-.153	-.529	.222	.192	.42	-.31
	Total disruption	5	69	161	-.071	-.246	.106	.090	.44	-.31
Frequency	1 per week	5	171	399	-.058	-1.20	.051	.320	.07	<.01
	2 per week	**5**	**171**	**399**	**-1.28**	**-1.41**	**-1.16**	**.063**	**<.01**	**.01**
	3 per week	**5**	**171**	**399**	**1.273**	**1.116**	**1.429**	**.080**	**<.01**	**.01**
Patient baseline characteristics	Age	5	171	399	-.016	-.052	.020	.018	.38	.01
	Male gender	5	171	399	-.062	-.898	.774	.427	.88	<.01
	English first language	**5**	**171**	**399**	**-.998**	**-1.85**	**-.014**	**.436**	**.02**	**.04**
	Interest in music	5	170	394	.012	-.020	.045	.016	.45	.03
	Avoidance of music	5	170	394	.002	-.244	.250	.126	.98	.02
	Treatment credibility	5	164	346	.056	-.028	.141	.043	.19	.04

	Motivation	5	147	259	-.021	-.056	.013	.017	.22	.08
	Clinical severity	5	171	398	.280	-.407	.967	.350	.42	.03
Patient clinical characteristics	**N days in hospital at consent**	**5**	**171**	**399**	**-.009**	**-.014**	**-.003**	**.003**	**<.01**	**.04**
	N previous admissions	5	170	383	.063	-.020	.146	.042	.14	.02
	Length illness (yrs)	**5**	**167**	**383**	**-.036**	**-.066**	**-.066**	**.015**	**.02**	**.01**
	Previous music therapy	5	171	399	.216	-.651	1.084	.443	.49	.01
Diagnosis	F10 Substance	5	171	399	.467	-3.15	4.087	1.847	.80	<.01
	F20 Schizophrenia	5	171	399	-.258	-.804	.288	.279	.35	<.01
	F30 Mood	5	171	399	.208	-.254	.669	.235	.38	<.01
	F60 Personality Disorder	5	171	399	-.033	-1.12	1.056	.556	.95	<.01
Medication	Hypnotics and Anxiolytics	5	171	399	.001	-.574	.576	.293	.99	-2.2
	Antidepressants	**5**	**171**	**399**	**-.758**	**-1.52**	**-.001**	**.387**	**.05**	**.01**
	Mood stabilisers	5	171	399	-.564	-1.42	.289	.436	.20	<.01
	Antipsychotic	5	171	399	.080	-.846	1.005	.473	.87	<.01
	Substance withdrawal	5	171	399	-.199	-2.16	1.762	1.001	.84	<.01
	Extrapyramidial	**5**	**171**	**399**	**-.674**	**-1.20**	**-.014**	**.270**	**.01**	**<.01**

Table 7.5 Multilevel 3 level univariate associations between predictors and patient appraisal of sessions. Significance levels of $p<.05$ highlighted in bold.

7.4.5.2 Multivariate analysis of patient appraisal:

When entered into the model in blocks, only duration of singing remained significant at the $p<.05$ level. Synchrony was no longer significant but had a level of $p=.058$, which was less than $p<.1$ indicating a trend. Patient characteristics of the number of days in hospital and antidepressant medication both continued to have a significant negative association with appraisal.

In the final full model, the predictor with the largest effect was commitment to the group. Duration of singing was also significant but had only a small effect ($F^2=.12$). Patient characteristics ceased to be significant apart from length of illness, which had a significant negative association with appraisal.

When group frequencies were added in as predictors these were not significant. The impact of addition of these predictors was to reduce the coefficient of singing ($B=0.016$, $p=.059$) with singing no longer significant but indicating a trend. The model fit was slightly better than the full model (AIC=153.16) and explained 1% more of the variance.

Appraisal	Null and mixed 3 level models using maximum likelihood estimation + robust sandwich estimation.									Variance Explained		
Block	Variable	NL3	NL2	NL1	B	95% CI		SE	*p*	Variable % var(F^2)	Model % var (R^2)	AIC
Empty model	Constant	5	171	399	12.063	11.480	12.646	.297	<.01			1923.3
1. Music Therapy	**Duration of singing**	**5**	**69**	**161**	**.002**	**.001**	**.003**	**<.001**	**<.01**	**.03**	-.25	829.2
	Synchrony				.002	-<.001	.004	.001	.06	.01		
2. Mediators	**Commitment to group**	**5**	**69**	**98**	**1.086**	**.795**	**1.377**	**.148**	**<.01**	**.52**	0.52	407.5
3. Patient	**Days in hospital**	**5**	**167**	**383**	**-.008**	**-.016**	**-<.001**	**.004**	**.05**	**.02**	0.07	1827.3
characteristics	Length of illness				-.017	-.074	.040	.029	.55	<.01		
	Extrapyramidial				.458	-.400	1.316	.438	.30	<.01		
	Antidepressant				**-.798**	**-1.418**	**-.178**	**.316**	**.01**	**.02**		
	English first language				-.544	-1.725	.637	.603	.37	.01		
4. Full model	**Duration of singing**	**5**	**21**	**34**	**.002**	**<.001**	**.003**	**.001**	**.03**	**.12**	0.64	149.9
	Synchrony				-.002	-.005	.001	.002	.22	.13		
	Commitment to group				**1.212**	**.891**	**1.533**	**.164**	**<.01**	**2.32**		
	Days in hospital				.003	-.005	.010	.004	.49	<.01		
	Length of illness				**-.0972**	**-.160**	**-.035**	**.032**	**<.01**	**.28**		
	Extrapyramidial				.559	-.390	1.507	.484	.25	.01		
	Antidepressant				-1.160	-3.364	1.043	1.124	.30	.10		
	English first language				-.759	-1.621	.103	.140	.08	.02		
5. Full model + freq	2 per week	5	21	34	.970	-3.705	5.646	2.385	.68	.15	0.65	153.2
	3 per week				.331	-3.407	4.069	1.907	.86	.10		

Table 7.6 Multivariate associations with outcome of patient appraisal

7.4.5.3 Motivation for change: Univariate analysis

Univariate analysis of predictors of motivation found commitment to the group, initiation of singing by other patients, increased entrances, exits and disruption to the group all positively associated with patient motivation. Therapist initiation of precomposed music, patient initiated speaking, duration of time on their own in the group and number of times a patient was in the group were negatively associated with motivation for change. Patient characteristics predicting greater motivation were an increased number of previous hospital admissions, antidepressant and substance withdrawal medication, a primary diagnosis of substance abuse and a greater motivation for change at baseline. Patients with a diagnosis of personality disorder had a positive association with motivation, although this association showed only a trend toward significance. Patients on antipsychotic medication reported significantly lower motivation. The largest effect was baseline motivation (R^2=.84) suggesting that initial motivation is associated with subsequent motivation. The next largest effect was number of entrances to the group (R^2=.33) suggesting in contrast to the hypothesised negative impact that this is positively associated with motivation for change.

Table 7.7 Outcome: Motivation- Univariate associations with predictors										
Predictor type	Predictor	N L3	N L2	N L1	*B*	95% CI		Std Err	*p*	%var (R^2)
Common process	Appraisal	5	66	92	.349	-.085	.783	.221	.12	.11
	Commitment to group (CALPAS)	**5**	**63**	**88**	**1.524**	**.676**	**2.372**	**.433**	**<.01**	**.07**
Music Therapy	Improvisation	5	26	39	.003	-.002	.008	.002	.28	.19
Activity duration	Precomposed	5	26	39	.004	-.004	.013	.004	.32	.17
	Singing	5	26	39	.003	-.008	.014	.006	.64	.16
	Speaking	5	26	39	-.001	-.003	<.001	.001	.14	.12
	Silence	5	26	39	-.024	-.078	.031	.028	.40	.14
Initiation of activity	Therapist- total	5	26	39	-.025	-.168	.117	.072	.73	.14
	Patient- total	5	26	39	-.049	-.111	.014	.032	.13	.10
	Others- total	5	26	39	.066	-.127	.259	.098	.50	.12
Improvisation	Therapist	5	26	39	-.283	-.877	.311	.303	.35	.13
	Patient	5	26	39	-.178	-.660	.303	.246	.47	.11
	Others	5	26	39	.102	-1.21	1.417	.671	.88	.13
Precomposed	**Therapist**	**5**	**26**	**39**	**-2.17**	**-3.78**	**-.554**	**.824**	**<.01**	**.12**
	Patient	5	26	39	-.159	-1.11	.788	.483	.74	.13
	Others	5	26	39	.247	-.289	.782	.273	.37	.12
Singing	Therapist	5	26	39	.057	-.313	.427	.189	.76	.16
	Patient	5	26	39	.209	-.059	.478	.137	.13	.14
	Others	**5**	**26**	**39**	**.419**	**.012**	**.825**	**.208**	**.04**	**.18**
Speaking	Therapist	5	26	39	-.029	-.257	.198	.116	.80	.14
	Patient	**5**	**26**	**39**	**-.105**	**-.209**	**<.001**	**.053**	**.05**	**.06**
	Others	5	26	39	.015	-.199	.228	.109	.89	.15
Patient participation	**N times in group**	**5**	**26**	**39**	**-4.50**	**-6.97**	**-2.04**	**1.257**	**<.01**	**-.06**
	Duration present	5	26	39	.001	-.001	.004	.001	.40	.18
	Duration participating	5	26	39	.002	-.001	.004	.001	.15	.22
Music	Duration ppt plays music	5	26	39	.005	-.002	.012	.003	.17	.31
	Duration synchrony	5	26	39	.009	-.003	.021	.006	.14	.19
	N joint endings	5	26	39	-.764	-3.77	2.244	1.535	.62	.15
Group	N ppts in group	5	66	96	1.041	-.836	2.918	.958	.28	-.01
	Time on own	**5**	**26**	**39**	**-.003**	**-.005**	**-.001**	**.001**	**<.01**	**.15**
	N entrances	**5**	**26**	**39**	**1.546**	**.040**	**3.052**	**.077**	**.04**	**.33**
	N exits	**5**	**26**	**39**	**.778**	**.342**	**1.214**	**.223**	**<.01**	**.15**
	Total disruption	**5**	**26**	**39**	**.679**	**.005**	**1.353**	**.344**	**.05**	**.23**
Frequency	1 per week	5	67	97	5.062	-2.42	12.97	4.032	.21	-.01
	2 per week	5	67	97	3.703	-4.52	11.98	4.223	.38	-.01
	3 per week	5	67	97	-5.64	-15.6	4.356	5.101	.27	-.01
Patient	Age	5	67	97	-.002	-.443	.439	.225	.99	<.01
baseline	Male gender	5	67	97	-3.49	-13.7	6.673	5.185	.50	<.01
characteristics	English first language	5	67	97	2.524	-10.4	15.40	6.570	.70	.03
	Interest in music	5	66	96	.159	-.265	.583	.216	.46	-.04
	Avoidance of music	5	66	96	-.408	-1.01	.193	.306	.18	.04
	Treatment	5	63	84	.403	-.333	1.140	.376	.28	.10

	credibility									
	Motivation	**5**	**54**	**72**	**.828**	**.758**	**.898**	**.036**	**<.01**	**.84**
	Clinical severity	5	67	97	-.737	-5.46	3.987	2.410	.76	
Patient clinical characteristics	N days in hospital at consent	5	67	97	-.011	-.039	.017	.014	.44	.01
	N previous admissions	**5**	**67**	**97**	**.900**	**.388**	**1.412**	**.261**	**<.01**	**.02**
	Length illness (yrs)	5	65	94	.057	-.356	.469	.211	.79	.07
	Previous music therapy	5	67	97	1.858	-6.50	10.22	4.265	.66	<.01
Diagnosis	**F10 Substance**	**5**	**67**	**97**	**1.478**	**.530**	**2.425**	**.484**	**<.01**	**<.01**
	F20 Schizophrenia	5	67	97	-1.86	-5.20	1.478	1.703	.28	.02
	F30 Mood	5	67	97	-.760	-7.78	6.259	3.581	.83	<.01
	F60 Personality Disorder	5	67	97	10.09	-.099	20.29	5.200	.06	.05
Medication	Hypnotics and Anxiolytics	5	67	97	3.497	-4.21	11.20	3.932	.37	<.01
	Antidepressant	**5**	**67**	**97**	**9.279**	**5.956**	**12.60**	**1.695**	**<.01**	**.22**
	Mood stabilisers	5	67	97	2.316	-1.92	6.556	2.163	.28	.01
	Antipsychotic	**5**	**67**	**97**	**-5.92**	**-10.5**	**-1.36**	**2.326**	**.01**	**-.07**
	Substance withdrawal	**5**	**67**	**97**	**1.741**	**1.436**	**2.045**	**.155**	**<.01**	**.01**
	Extrapyramidial	5	67	97	-.458	-10.7	9.767	5.217	.93	<.01

Table 7.7 Multilevel 3 level univariate associations between predictors and patient motivation for change. Significance levels of $p<.05$ highlighted in bold.

7.4.5.4 Motivation for change: Multivariate analysis

Results from the multivariate analysis are displayed in table 7.8. It was not possible to use baseline motivation for change, total disruption or substance withdrawal medication as variables within this model due to their collinearity with other variables so these predictors were not included in the analysis. When entered together in the first block, none of the music therapy components were significant although the number of entrances during the group had the greatest effect and was positively associated with motivation. In the second block, antidepressants had a medium effect and positive association with motivation (F^2=0.38). The number of previous admissions had a significant but small positive association suggesting the greater number of times a person was admitted, the stronger their motivation for change (F^2=.04).

Within the full model, initiation of singing by other patients had a significant positive association with motivation, but a small effect (F^2=.17), whilst duration of time alone in the group had a small but significant negative association (F^2=.03). Antidepressant medication had a medium significant association with motivation (F^2=.41). Commitment to the group was no longer a significant predictor. Overall this model had the best fit (AIC=265.42) and explained around 40% of the variance.

Motivation	Null (2 + 3 level) random intercepts models using maximum likelihood estimation + robust sandwich estimation.									Variance Explained		
Block	Variable	NL3	NL2	NL1	B		95% CI	SE	*p*	Variable(F^2)	Model (R^2)	AIC
a)Empty model 2L	Motivation (URICA Sum Score)	5		97	50.335	43.743	56.926	3.363	<.01		140.47	739.81
b)Empty model 3L	Motivation (URICA Sum Score)	5	67	97	49.898	43.121	56.675	3.458	<.01		183.51	740.15
1. Music Therapy	Therapist initiation of precomposed music	5	26	39	-.892	-4.118	2.333	1.646	.59	.02	0.26	299.29
	Other patients initiation of singing				.233	-.172	.637	.207	.26	-.05		
	Patient initiation of speaking				.066	-.102	.234	.086	.44	.03		
	Time on own in group				-.001	-.004	.001	.001	.18	.06		
	Patient N times in gp				-3.359	-8.187	1.469	2.463	.17	-.16		
	N Group entrances				1.454	-1.225	4.134	1.367	.29	2.19		
	N Group exits				-.303	-2.703	2.097	1.224	.81	2.00		
2. Mediators	**Commitment to group**	**5**	**63**	**88**	**1.524**	**.676**	**2.372**	**.433**	**<.01**	**.07**	0.23	673.03
3. Patient	**N previous admissions**	**5**	**67**	**97**	**.137**	**.971**	**1.778**	**.206**	**<.01**	**.04**		
characteristics	**Antidepressants**				**11.275**	**8.858**	**13.692**	**1.233**	**<01**	**.38**		
	Antipsychotic				-6.518	-13.922	.886	3.777	.08	-.06		
	Substance withdrawal				**-13.460**	**-17.801**	**-9.118**	**2.215**	**.<.01**	**<.01**		
	F1: Substance misuse				3.010	-3.979	9.999	3.566	.40	<.01		
	F6: Personality disorder				-.333	-12.524	11.859	6.220	.96	<.01		
4. Full model	Therapist initiation of precomposed music	5	23	35	1.319	-3.494	6.132	2.456	.59	.01	0.40	265.42
	Other patients initiation of singing				**.664**	**.321**	**1.007**	**.175**	**<.01**	**.17**		
	Patient initiation of speaking				-.075	-.502	.352	.218	.73	.01		
	Time on own in group				**-.002**	**-.003**	**-<.001**	**.001**	**.02**	**.03**		
	Patient N times in group				-1.226	-4.861	2.409	1.855	.51	.01		
	N Group entrances				.972	-.381	2.325	.690	.16	.02		
	N Group exits				-.498	-2.001	1.005	.767	.52	<.01		
	Commitment to group				.064	-2.101	2.229	1.105	.95	-.05		
	N previous admissions				**1.370**	**1.116**	**1.623**	**.129**	**<.01**	**-.11**		
	Antidepressants				**12.668**	**8.471**	**16.865**	**2.141**	**<.01**	**.41**		
	Antipsychotic				-2.513	-18.811	13.785	8.315	.76	.01		
	F1: Substance misuse				1.817	-17.618	21.252	9.916	.86	<.01		
	F6: Personality disorder				-1.465	-15.728	12.798	7.277	.84	<.01		

Table 7.8 Multivariate associations of variables with the outcome motivation for change

7.4.5.5 Commitment to the group: Univariate analysis

Results from the univariate analysis are displayed in table 7.9. Univariate analysis suggested that both patient appraisal of the session and motivation for change were positively associated with commitment to the group. Musical initiation of improvisation by the therapist, and singing by the patient themselves were all significantly and positively associated with commitment to the group whilst initiation of precomposed music by other patients had a significant negative association. Duration of precomposed music had a positive association with p=.064 indicating a trend. Delivery of music therapy once a week had a significant negative association with commitment but negligible effect (R^2<.01). Patient characteristics of age, and clinical global severity had a positive association with commitment to the group (i.e. older patients and those with more severe illness reported higher commitment). Mood disorders were also positively associated although this was significant at p=.064 indicating a trend. Number of days in hospital and medication for substance withdrawal were negatively associated with commitment to the group.

7.4.5.6 Commitment to the group: Multivariate analysis

Results from the multivariate analysis are displayed in table 7.10. Within the multivariate analysis of music therapy components, initiation of precomposed music by other patients no longer remained significant whilst initiation of improvisation by the therapist, and singing by the patient both had small but significant associations. Taken together, both appraisal and motivation for change remained significant and positively associated. Patient characteristics of substance withdrawal medication, number of days in hospital, and age all remained significant whilst affective disorders and clinical severity did not.

In the full model, the strongest significant association with commitment to the group was patient appraisal of the session. The duration of precomposed music became negatively associated, with a small effect (F^2=.19). Age continued to be positively associated and number of days in hospital negatively associated, suggesting older patients would feel a greater commitment whilst those in hospital for a longer period of time would feel less. The final model explained 42% of the variance. The addition of frequency to the full model did not change the direction or significance of the predictors and did not improve model fit (AIC=117.3), with neither group frequencies reaching significance. As the full model had the best fit compared to both frequency and the model with appraisal and motivation as predictors only, the full model was preferred (AIC=115.7, compared to AIC=117.3).

Table 7.9 Outcome: Commitment to group- Univariate associations with predictors										
Predictor type	Predictor	N L3	N L2	N L1	*B*	95% CI		Std Err	*p*	R^2
Common process	**Appraisal**	**5**	**69**	**98**	**.270**	**.017**	**.375**	**.053**	**<.01**	**.32**
	Motivation (URICA)	**5**	**63**	**88**	**.019**	**.006**	**.033**	**.007**	**<.01**	**-.05**
Music Therapy	Improvisation	5	23	36	<.001	<-.001	.001	<.001	.64	-.17
Activity duration	Precomposed	5	23	36	.001	<.001	.001	<.001	.07	-.14
	Singing	5	23	36	<.001	<.001	.001	<.001	.26	-.15
	Speaking	5	23	36	<.001	-.001	.001	<.001	.96	-.17
	Silence	5	23	36	<.001	-.016	.016	.008	.95	-.17
Initiation of activity	Therapist- total	5	23	36	-.002	-.015	.010	.006	.75	-.17
	Patient- total	5	23	36	.009	-.005	.022	.007	.21	-.14
	Others- total	5	23	36	.011	-.005	.028	.009	.19	-.13
Improvisation	**Therapist**	**5**	**23**	**36**	**.068**	**.020**	**.116**	**.024**	**<.01**	**-.14**
	Patient	5	23	36	.042	-.020	.104	.031	.18	-.15
	Others	5	23	36	.039	-.062	.139	.051	.45	-.16
Precomposed	Therapist	5	23	36	-.082	-.381	.216	.152	.59	-.17
	Patient	5	23	36	-.006	-.101	.088	.048	.89	-.17
	Others	**5**	**23**	**36**	**.063**	**.052**	**.074**	**.006**	**<.01**	**-.09**
Singing	Therapist	5	23	36	-.011	-.055	.033	.022	.62	-.16
	Patient	**5**	**23**	**36**	**.094**	**.049**	**.014**	**.023**	**<.01**	**<.01**
	Others	5	23	36	.018	-.071	.106	.045	.69	-.16
Speaking	Therapist	5	23	36	-.002	-.023	.020	.011	.87	-.17
	Patient	5	23	36	.006	-.013	.025	.010	.55	-.17
	Others	5	23	36	.015	-.010	.040	.013	.23	-.15
Patient participation	N times in group	5	23	36	.068	-.0717	.208	.071	.34	-.17
	Duration present	5	23	36	<.001	-<.001	<.001	<.001	.90	-.17
	Duration participating	5	23	36	<.001	-<.001	.001	.003	.97	-.17
Music	Duration ppt plays music	5	23	36	<.001	-.0001	<.001	<.001	.46	-.16
	Duration synchrony	5	23	36	<.001	-.001	.001	<.001	.78	-.17
	N joint group endings	5	23	36	.051	-.343	.445	.201	.80	-.17
Group	N ppts in group	5	69	100	.017	-.079	.113	.049	.73	.03
	Time on own	5	23	36	<.001	-.001	<.001	<.001	.73	-.17
	N entrances	5	23	36	-.082	-.210	.046	.065	.21	-.15
	N exits	5	23	36	-.091	-.237	.055	.0744	.22	-.15
	Total disruption	5	23	36	-.048	-.120	.024	.037	.20	-.14
Frequency	**1 per week**	**5**	**70**	**101**	**-.324**	**-.554**	**-.094**	**.117**	**<.01**	**<.01**
	2 per week	5	70	101	-.067	-.335	.201	.137	.63	<.01
	3 per week	5	70	101	.154	-.158	.467	.159	.33	<.01
Patient	**Age**	**5**	**70**	**101**	**.018**	**.009**	**.027**	**.005**	**<.01**	**.03**

baseline characteristics										
	Male gender	5	70	101	-.216	-.370	.239	.232	.35	<.01
	English first language	5	70	101	-.203	-.783	.377	.296	.49	<.01
	Interest in music	5	70	101	-.010	-.023	.004	.007	.15	<.01
	Avoidance of music	5	70	101	-.079	-.224	.066	.074	.29	.03
	Treatment credibility	5	67	91	.0344	-.035	.104	.035	.33	<.01
	Motivation	5	57	76	.007	-.017	.030	.012	.57	-.02
	Clinical severity	**5**	**70**	**101**	**.208**	**.119**	**.297**	**.046**	**<.01**	**.02**
Patient clinical characteristics	**N days in hospital at consent**	**5**	**70**	**101**	**-.007**	**-.011**	**-.003**	**.002**	**<.01**	**.08**
	N previous admissions	5	70	101	.053	-.0762	.181	.066	.42	.02
	Length illness (yrs)	5	68	98	.008	-.027	.043	.018	.66	<.01
	Previous music therapy	5	70	101	-.180	-.508	.148	.168	.25	<.01
Diagnosis	F10 Substance	5	70	101	-.468	-1.827	.891	.693	.50	<.01
	F20 Schizophrenia	5	70	101	-.054	-.364	.255	.158	.73	<.01
	F30 Mood	5	70	101	.298	-.018	.613	.161	.06	.02
	F60 Personality Disorder	5	70	101	-.487	-2.016	1.04	.780	.53	.01
Medication	Hypnotics and Anxiolytics	5	70	101	.399	-.084	.882	.247	.11	.04
	Antidepressants	5	70	101	-.192	-.701	.317	.260	.46	<.01
	Mood stabilisers	5	70	101	-.259	-1.174	.655	.467	.58	<.01
	Antipsychotic	5	70	101	.583	-.490	1.70	.547	.29	.03
	Substance withdrawal	**5**	**70**	**101**	**-1.51**	**-1.721**	**-1.30**	**.107**	**<.01**	**.04**
	Extrapyramidial	5	70	101	-.062	-1.201	1.08	.581	.91	<.01

Table 7.9 Multilevel 3 level univariate associations between predictors and patient commitment to the group. Significance levels of $p<.05$ highlighted in bold.

Commitment to group (CALPAS Total)	Null (2 + 3 level) and random intercepts models using maximum likelihood estimation + robust sandwich estimation.									Variance explained		
Block	Variable	NL3	NL2	NL1	B	95% CI		SE	*p*	Variable % var (F^2)	Model % var (R^2)	AIC
a)Empty model 2L	CALPAS Total	5		101	5.444	5.219	5.669	.115	<.01			
b)Empty model 3L	CALPAS Total	5	70	101	5.444	5.219	5.669	.115	<.01			
1. Music Therapy	Duration of precomposed	5	23	36	-.001	-.002	<.001	<.001	.07	.03	.05	122.1
	Therapist initiation of improvised music				**.067**	**-.049**	**.084**	**.009**	**<.01**	**.03**		
	Initiatiation of precomposed music by other patients				.008	-.039	.056	.024	.73	<.01		
	Patient initiation of singing				**.125**	**.043**	**.207**	**.042**	**<.01**	**.14**		
2. Mediators	**Appraisal**	**5**	**62**	**85**	**.291**	**.186**	**.396**	**.054**	**<.01**	**.55**	.33	235.6
	Motivation for change				**.015**	**.004**	**.025**	**.005**	**<.01**	**.01**		
3. Patient	**Age**	**5**	**70**	**101**	**.031**	**.015**	**.047**	**.008**	**<.01**	**.08**	.21	301.2
characteristics	**Time in hospital**				**-.009**	**-.011**	**-.006**	**.001**	**<.01**	**.08**		
	Substance withdrawal				**-2.159**	**-2.593**	**-1.727**	**.221**	**<.01**	**.08**		
	F3: Affective disorders				.160	-.320	.640	.245	.51	<.01		
	Clinical global severity				.037	-.122	.197	.081	.65	<.01		
4. Full model	**Duration of precomposed music**	**5**	**23**	**35**	**-.002**	**-.003**	**-.001**	**.001**	**<.01**	**.19**	.42	115.7
	Therapist initiation of improvised music				.034	-.026	.094	.031	.26	<.01		
	Initiation of precomposed music by other patients				.013	-.083	.109	.049	.79	<.01		
	Patient initiations of singing				.080	-.015	.175	.049	.10	.06		
	Appraisal				**.249**	**.036**	**.463**	**.109**	**.02**	**.35**		
	Motivation for change				.015	-.028	.059	.022	.49	.01		
	Age				**.059**	**.002**	**.116**	**.029**	**.04**	**.25**		
	Time in hospital				**-.006**	**-.010**	**-.002**	**.002**	**<.01**	**.25**		
	F3: Depression				.221	-1.138	1.580	.693	.75	.01		
	Clinical global severity				.072	-.299	.442	.189	.71	.06		
5. Full model + Freq	2pw				-.483	-2.058	1.091	.804	.55	.02	.46	117.3
	3pw				.295	-.693	1.284	.504	.56	.01		

Table 7.10 Multivariate associations between variables and outcome of patient commitment to the group

7.4.6 Diagnostic tests and sensitivity analysis

A Hausman test was performed comparing fixed effects and random effects regression of the variables specified in each of the three models above. In all of these tests, the result was not significant suggesting that the random intercept model should be preferred over a fixed effects model to account for effects between groups and the random intercepts model employed was therefore appropriate.

Box plots of empirical Bayes estimations for each of the 3 levels revealed the greatest amount of variability was within and between participant responses, with very little variability between sessions themselves or therapists. The box plot revealed only one outlier at the occasion level, which had a high intercept.

Sensitivity analysis with multiply imputed data produced similar results to those found with the incomplete data set, although the effect sizes of variables was much smaller. Tables for the sensitivity analysis can be found in Appendix H.

7.4.6.1 Sensitivity analysis of appraisal

All predictors of appraisal were significant in the univariate analysis apart from synchrony which was positively associated but no longer significant. Additional variables of frequency of once per week (negative association), participant initiation of improvisation, therapist and participant initiation of singing, treatment credibility, the number of times a patient came into the group and the duration of time the patient spent playing music (all positive associations) were significant in the univariate analysis. Only group frequency and antidepressant medication remained significant within the full model. This suggests that the missing data prevented variables with small effects from being detected and additional variables may play a greater role.

7.4.6.2 Sensitivity analysis of motivation

Additional variables of the length of time in hospital, length of illness, diagnoses of schizophrenia and personality disorder and extrapyramidial side effect medication became significant in the univariate analysis. Initiation of precomposed music by the therapist, duration of time the patient was on their own and antidepressant medication remained significant in the full model whilst commitment to the group, others initiating singing and the number of previous admissions did not. Instead, antipsychotic medication (negative association), the number of entrances in the group (negative association) and diagnosis of personality disorder (positive association) became significant.

7.4.6.3 Sensitivity analysis of commitment

Variables in the full model all remained significant apart from duration of precomposed music. Univariate associations between hypnotic and anxiolytic medication, personality disorder, initiation by others, initiation of precomposed music by the participant and initiation of speaking by the therapist were significant at the univariate level.

7.5 Study 2: Results- Acceptability and modelling of attendance in intensive group music therapy for acute adult psychiatric inpatients.

This second study sought to extend the model in study 1 by assessing acceptability of intensive group music therapy to acute adult psychiatric inpatients and modelling associations between the same music therapy components and the outcome of attendance of the following session. In particular the study objectives were to:

a) Determine the extent to which patients make use of a greater frequency of sessions by examining patterns of attendance and descriptive data on reasons for non-attendance
b) Explore patients' views regarding the frequency of sessions
c) To build a model of attendance by examining associations between music therapy components and attendance of the subsequent group, accounting for patient characteristics including baseline clinical and demographic, commitment to the group and motivation for change.

7.5.1 Objective a) Patterns of attendance and reasons for non-attendance

Patterns of attendance were examined across the three frequencies of groups (1-3 times per week) and are displayed in table 7.11 below. The mean number of sessions attended was 5.23 sessions (range 0-34, s.d. 6.182) out of a mean 12.08 available whilst an inpatient (range 0-57, s.d. 11.264). On average, patients missed 2.09 sessions due to taking leave (range 0-13, sd 2.505). When leave was taken into account, this reduced to 9.25 sessions available whilst in hospital (range 0-48, sd 10.218). Between 0-10 sessions were missed due to transfer to psychiatric intensive care unit (PICU), another ward or being absent without leave (AWOL) (average 0.75, s.d. 2.008).

N (range, std. dev.)	1pw	2pw	3pw
N sessions attended	2.17 (0-4, 1.115)	4.07 (0-13, 3.731)	6.19 (0-34, 7.164)
Possible minus leave	3.33 (1-7, 1.670)	7.41 (0-24, 6.361)	10.95 (0-48, 11.731)
Total possible	4.50 (2-8, 2.153)	10.31 (1-27, 7.929)	14.03 (0-57, 12.620)
N consecutive sessions attended	1.37 (1-2, 0.496)	1.87 (1-10, 1.604)	2.24 (1-18, 2.287)
N consecutive sessions absent	2.00 (1-7, 1.922)	2.82 (1-22, 3.176)	2.84 (1-22, 2.967)
N sessions missed due to leave	0.92 (0-4, 1.505)	1.76 (0-11, 2.444)	2.52 (0-13, 2.583)
N sessions missed due to ward transfer	0.92 (0-4, 1.505)	1.14 (0-10, 2.601)	0.56 (0-10, 1.803)
N admissions to hospital per patient	1 (0,0)	1 (0,0)	1.07 (1-3, 0.304)
N days transferred to PICU	16.83 (0-168, 11.409)	2.93 (0-42, 9.449)	2.12 (0-90, 11.963)
N days different ward	0	2.55 (0-47, 9.909)	0.56 (0-24, 3.420)

Table 7.11 Average attendance of music therapy groups and availability of patients

Reasons for non-attendance were grouped into thematic categories and then counted (table 7.12). The most frequent reason for non-attendance was being away from the ward either by using leave or due to being transferred elsewhere. Patients declined to attend in 26% of cases and did not provide a reason in just over two thirds of these cases. Where patients did give a reason, this was most often due to their physical or emotional state (too tired or not feeling well enough, N=49). In a further 51 instances, therapists recorded that the patient had been asleep and not rousable, and in two instances, too upset to come to the group. In eight instances, patients declined to attend for religious reasons. External factors contributing to non-attendance included conflicting events, ward risk limitation strategies and miscommunication between staff. Appointments clashing with attendance of the group included external appointments, such as visits to the dentist and attendance of a group happening at the same time. In 29 instances patients were prevented from attending the group either due to the group being off the ward, and being prevented from leaving the ward (N=17) or being on one to one observation with nursing staff on the ward (N=12). Miscommunication occurred either through the therapist forgetting to invite the patient to the group (N=18) or by other staff informing the therapists the patient was not present on the ward when they were (N=3).

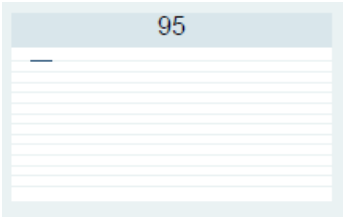
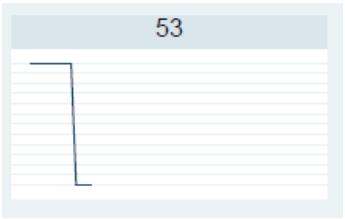
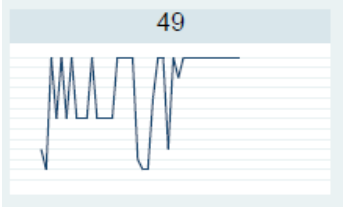
In 6 instances, patients agreed to take a break from music therapy with the music therapist. This occurred with two patients in one of the 3 times per week groups with the same therapist and will be discussed further in section 7.6.3. Both patients had been in hospital for over 3 months. In one instance, the patient had attended for 18 consecutive sessions, and agreed a one week break, returning after the break. The other patient attended 6 consecutive sessions, then reduced to one per week for 3 weeks, before disengaging. There were two instances where one patient declined to attend as they felt uncomfortable about the video camera.

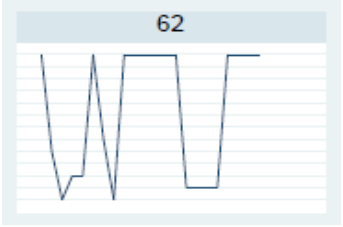
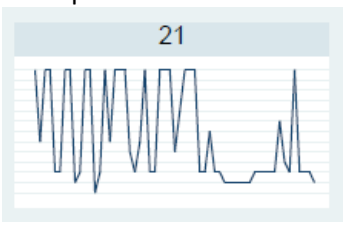
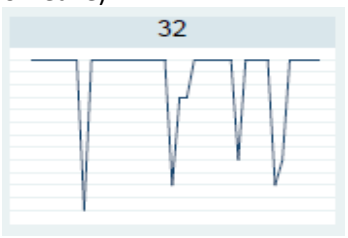
Instances of attendance	**591**
Instances of non-attendance	**778**
Off ward- TOTAL	**324**
- On leave	239
- Transfer to Psychiatric Intensive Care	39
- Transferred to a different ward	25
- Absent without leave (AWOL)	17
- In general hospital	4
Declined TOTAL	**204**
- No reason provided	134
- Too tired	26
- Not feeling well	19
- Doing other things	10
- Religion	8
- Feeling physically unwell	4
- Not sure about attending	2
- Lack of other participants	1
Unknown	**61**
Doing other things at time of group	**60**
- External appointment	26
- Attendance of another group	14
- Visitors	8
- Having bath/shower/dinner	8
- Smoking	4
Mental/Physical state	**51**
- Asleep not rousable	49
- Upset	2
Implementation of risk limitation TOTAL	**29**
- Not allowed off ward	17
- On 1:1 observations	12
Miscommunication between staff	**21**
- Therapist forgot	18
- MDT communication	3
Said yes but did not attend	**16**
Taking a break from therapy	**6**
Forgot about session/arrived too late	**4**
Video camera	**2**

Table 7.12 Reasons for non-attendance of sessions

7.5.2 Patterns of attendance

Patterns of attendance were identified based upon graphical representation of reasons for non-attendance and are displayed in table 7.13. Graphs were constructed for each participant with categories of reasons for non-attendance represented on the y axis. Attendance was set at 1 and non-attendance without a reason set at 0 with other reasons for non-attendance between the two. Categories were listed in order of frequency of occurrence, with the most frequent reasons for non-attendance at the bottom of the graph. This enabled patterns of attendance to be viewed and explored by reading the top of the graph for consistency of attendance and patterns below this line for reasons for non-attendance. Distinctions were made between short (<4 weeks) and long (>4 weeks) stay patients and group frequencies.

Pattern typology and graphical example	1pw		2pw		3pw		TOTAL	
	Short	Long	Short	Long	Short	Long	Short	Long
1. Fully Committed: Attended all sessions available 	2		1		4	1	7	1
2. Consistent but used leave: Attended all sessions when not on leave 	3		6	1	19	5	28	6
3. Consistent but not all sessions due to external appointments: Attended all sessions when not in appointments or on another ward 	2	1	3	2	3	5	8	8

4. Gradual engagement: Gradual increase in frequency of attendance 			1	2	1	2	2	4
5. Sporadic/Intermittent: Attended for bursts but not every session, interspersed with declines  (nb this pattern also shows disengagement and subsequent re-engagement)	1	1	2	6	7	15	10	22
6. Period of disengagement: Does not attend for more than 2 sessions (not due to being on another ward or leave) 				2		6		8
7. Deterioration: Patient does not attend due to deterioration in mental state. Represented visually as a period of disengagement but then triangulated with field note data. 			1	2	2	4	3	6

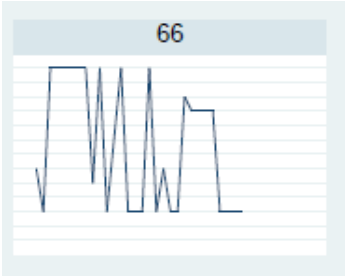
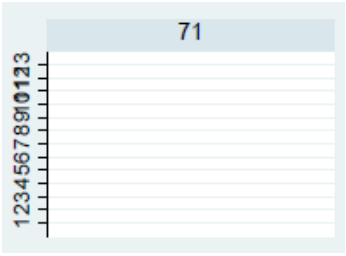
8. Fully disengaged: Ceased attending (not due to leave and is then discharged) 	1		3		3	7	7	7
9. DNA: Did not attend a single session 		1	4		6		11	

Table 7.13 Patterns of attendance grouped by frequency and length of stay

In total, 9 patterns were identified. The most frequent pattern was attendance of all sessions until the patient had leave, suggesting that most patients were committed to attending whilst confined to the ward. A related pattern was that of consistent attendance with non-attendance being due to external appointments or factors. The next most frequent was sporadic or intermittent attendance. This was seen in both short and long stay patients. Patterns of gradual engagement were seen in 6 patients in groups with sessions 2 or 3 times per week, but not in the group that ran once a week. This may have been due to the shorter lengths of stay on the ward as well as the reduced frequency of the group. Periods of disengagement were seen in 8 long stay patients in the groups run 2 and 3 times per week. Similarly, 3 short stay and 6 long stay patients did not attend in the increased frequency groups for a period due to deterioration in mental state, but then returned to the group. Full disengagement from music therapy occurred in 14 cases, whilst 11 patients did not attend at all after consenting to take part in the study. This was due either to being discharged soon after consenting (N=6) or declining to attend a session then using leave (N=3). Two participants changed their mind after providing consent and chose to withdraw from the study.

7.5.3 Objective b) Patients views regarding the frequency of sessions

Sixteen participants took part in end of therapy interviews. In total, 2 participants attended music therapy that was offered once a week, 4 twice a week and the remaining 10, three times a week. The full methodology and sample description for these interviews was described in chapter 6, and involved a semi-structured interview about changes they had experienced since attending music therapy and their experiences of the group. As part of this interview, participants were asked "what did you think about the frequency of the music therapy?" Responses to this question along with any other relevant responses relating to the frequency of the group within the interview were coded and analysed separately. Comments relating to the group frequency within the 'Experiences of music therapy' questionnaires were similarly coded if relevant to the frequency of the group.

Interview respondents fell into three clear typologies of response: frequency was not enough, was enough or frequency was too much. The distribution of these responses is displayed in table 7.14. The patients who attended once per week both expressed they felt this was not enough. Patients attending twice and three times per week either felt that this was enough or wanted more, with one exception. Factors influencing participants' views on the frequency involved the structuring of time, experience of time within the session, variety of session content, access to the group and the therapeutic process.

Response	1 per week	2 per week	3 per week
Not enough	2	1	4
Enough		2	6
Too much		1	

Table 7.14 Typology of responses to the frequency of music therapy, by frequency group

Structuring time:

Within the three per week groups, the impact of the music therapy group frequency on use of time was noted in terms of providing something to do and providing a structure for the rest of the week.

> "*I think it was, it was, it was really important erm during my time there, because erm there wasn't much -there wasn't much things to do, and..you know when the music therapy came along, I was- there was- I wasn't doing much anyway, so I thought I'd- I thought I would go- go and do it*" PPT96 (3pw)

As mentioned in section 7.6.2 one participant took a break from the group after an extended period of attendance. This participant expressed how the frequency of the group helped him to structure his time and engagement and the contrast when he took a break:

> "*My time in hospital has seemed- has seemed quite - quite small, compared to, when I came in, in the past, I was here for ever. But going to the group helped me, it err, it made time- just - time- erm,... not stand out, but it put it into sections, yeah. [mhmm] Time when I was able to go to the group and time when I was able to just do other things- relax and- yeah. . .and- I remember I had a time when I- I took a holiday and me and [therapist] talked about, at the time- I should- take a holiday, just a small one,[mm] and then see how, how I feel. Like, I didn't do much in that time with it, [mhmm] yeah. . .I just went to sleep*" PPT32 (3pw)

Length of sessions:

Participants' experience of time during the session suggested that the length of the session was also important. Participants attending twice and three times per week all suggested that sessions could have been longer, explaining that time appeared to go quickly in sessions:

> "*It would be an hour session, but it would seem- it would seem like erm, shorter than that, and it would seem like half an hour. . .Maybe if they could make it even a, even an hour and a half, which they probably won't, but I do, I do believe it's good therapy*" PPT101 (3pw)

> "*That hour used to go pretty quickly*" PPT96 (3pw)

> *"I think twice a week's enough. But err, I would say probably an hour and half…something like that*" PPT33 (2pw)

This participant qualified his statement by explaining for him, the important moments in sessions appeared to happen at the end of the group, when people had found a way of playing together and starting to listen to one another.

> *"…early on in the sessions it was usually people just finding their feet and changing instruments, but I used erm, when I was marking those forms, I used to find myself liking the last half hour, because people had started gelling at that point, and at that point, some people had left, or some other people had joined the group, so usually by that time we had got a rhythm going"*PPT33 (2pw)

Variety of session content:

Some participants suggested that increasing the frequency of the groups might lead to a sense of repetition or boredom. One participant, who felt that sessions required a more educational and learning focus, felt that twice a week was too much and felt that sessions became repetitive:

> "*It's too much. [mhmm] Mm -no I had to cut it down to once a week [mm], towards the end anyway, because err I was out and about and I had leave… but, but even, twice a week, if it's the same thing, and not educational, as I said to you before, then it's mm- it's- it's boring,… it's boring, sorry*" PPT8

The idea that sessions could become boring was also thought about by one participant who felt that 3 times per week was enough but felt it would be more motivating to have fewer sessions and also suggested incorporating an element of tuition for structure and variety:

> "*… because if you do it more frequently then, the desire and you know- and you won't miss it that much,[mm] but because it's less frequency, you look forward. . .so you have to wait 5 days, until your second session, and that you know - you'll miss it and it's nice and everybody looks forward to it, you know and as soon she comes in everybody's just coming in*" PPT90

> "*I think er, the music therapy would go really well if there was- 3 times a week: the first one is just pure teaching, asking any individual questions - apparatus or you know, instruments you'd like to learn, then basically teach them, just the basics so they could just- you know [mm] do it themselves, then the following week, practise on what they have learned, then last week, they'll just- try to make music, you know, on their own*" PPT90

One participant who attended once a week felt that the sessions felt quite frequent and initially responded saying she would like more, but then noted that it might make access to other activities more difficult:

> "*But then, there'd be less time for physical activity, like the badminton was actually a lot of fun…"* PPT24

Increasing access to the group and therapeutic process

Participants suggested that a benefit of the increased frequency was ability to access a session quickly if unable to attend the current session. Some who felt that the frequency was ok, or enough, often qualified that this was because they could always choose not to attend. This idea was summed up by one participant who also noted that the frequency provided greater stability in group membership and suggested that this in turn accelerated therapeutic processes:

> "*No I think 3's enough - it's just a nice- number in the week. I think if you did it every day it'd be too much, and I think any less, that once a week becomes - it's not as helpful really, there are sessions that only happen once a week and yeah, sometimes, you're not in the right place at that time in the week, so to have it 3 times a week, at least if in one day you're not well, you get to do it, another time in the week and also it's that bonding thing again, because you're with- you know, if you do go to the 3 sessions in the week, you're with the same people and you start to build up that trust and that- in that space, and it's that isn't it, that in any sort of counselling or group it's that building of trust with people and expression with people where you can open up emotion and that happens quicker, when you're doing more sessions than an hour once a week.*" PPT92

7.5.4 Research objective c) Predictors of attendance in group music therapy

The findings in research objectives 1 and 2 suggest that patients may take a number of differing patterns of attendance, with some exhibiting clear engagement and others more intermittent or fleeting patterns. This final study sought to examine whether there were any associations between the content of music therapy sessions, patient appraisal, motivation, commitment to the group and a lagged time variable of subsequent attendance of the following session (t+1). The procedure for modelling followed the steps as outlined in part one of this chapter, using a binomial logit multilevel model with random intercepts for therapist and therapist session. Attendance of the following session was dichotomised as 1 for attendance or 0 for non-attendance. Predictors significant at a univariate level were then entered in blocks with music therapy components first, followed by patient subjective outcomes and then clinical characteristics. As this model used logistic regression, variance at level 1 was fixed, therefore leading to an increase in the estimates of regression coefficients

and an increase in variances of the intercept. As a result, estimates of R^2 are noted to be much lower compared to those used to predict continuous outcomes (Snijders & Bosker, 2012, p.305-9). As R^2 estimates for this model were extremely low, resulting in an estimate of R^2=<.001, model fit was instead assessed using Akaike's Information Criterion alone. Coefficients are reported as odds ratios with values >1 indicating increased odds of attendance and values <1, reduced odds of attendance.

7.5.4.1 Results

Univariate associations with subsequent session attendance were duration of singing, initiation of singing by the therapist and initiation of activities by other patients and particular musical activities of improvisation or precomposed music. Duration of time on their own in sessions was significantly negatively associated. Appraisal of the session predicted subsequent attendance as did frequency, with three times per week more likely to predict attendance of the next session. Patients with previous experience of music therapy had lower odds of attending the next session. Univariate associations between predictors and subsequent attendance are shown in table 7.15.

Table 7.15 Outcome: Attendance of following session: Univariate associations with predictors									
Predictor type	Predictor	L1	L2	L3	*Odds ratio*	95% CI		Std Err	*p*
Common process	**Appraisal**	**5**	**163**	**378**	**1.188**	**1.135**	**1.244**	**.028**	**<.01**
	Commitment (CALPAS)	5	68	99	1.821	.306	.577	1.068	.31
	Motivation (URICA)	5	65	95	.979	.893	1.074	.046	.65
Music Therapy	Improvisation	5	65	156	1.000	.999	1.001	<.001	.76
Activity duration	Precomposed	5	65	156	1.001	.999	1.002	<.001	.12
	Singing	**5**	**65**	**156**	**1.002**	**1.001**	**1.003**	**<.001**	**<.01**
	Speaking	5	65	156	.999	.999	1.000	<.001	.92
	Silence	5	65	156	.993	.985	1.002	.004	.11
Initiation of activity	Therapist- total	5	65	156	1.017	.978	1.058	.020	.39
	Patient- total	5	65	156	1.024	.994	1.056	.016	.12
	Others- total	**5**	**65**	**156**	**1.017**	**1.006**	**1.029**	**.006**	**<.01**
Improvisation	Therapist	5	65	156	1.060	.976	1.150	.044	.16
	Patient	5	65	156	1.019	.916	1.133	.055	.74
	Others	**5**	**65**	**156**	**1.102**	**1.013**	**1.198**	**.047**	**.02**
Precomposed	Therapist	5	65	156	1.026	.795	1.324	.134	.84
	Patient	5	65	156	1.074	.909	1.270	.092	.40
	Others	**5**	**65**	**156**	**1.115**	**1.043**	**1.193**	**.038**	**<.01**
Singing	Therapist	5	65	156	1.045	.955	1.143	.048	.34
	Patient	5	65	156	1.106	.891	1.372	.122	.36
	Others	5	65	156	1.042	.988	1.099	.028	.13
Speaking	Therapist	5	65	156	1.009	.961	1.060	.025	.71
	Patient	5	65	156	1.027	.993	1.061	.017	.12
	Others	5	65	156	1.017	.992	1.043	.013	.18
Patient participation	N times in group	5	65	156	1.232	.853	1.782	.232	.27
	Duration present	5	65	156	1.000	.999	1.001	<.001	.93
	Duration participating	5	65	156	.999	.999	1.001	<.001	.98
Music	Duration ppt plays music	5	65	156	1.000	.999	1.001	.001	.74
	Duration synchrony	5	65	156	1.000	.997	1.003	.002	.87
	N joint endings	5	65	156	.991	.601	1.633	.253	.97
Group	N ppts in group	5	163	382	1.070	.823	1.392	.143	.61
	Time on own	**5**	**65**	**156**	**1.000**	**.999**	**1.000**	**<.001**	**.03**
	N entrances	5	65	156	.879	.706	1.093	.098	.25
	N exits	5	65	156	.926	.703	1.220	.130	.58
	Total disruption	5	65	156	.941	.822	1.077	.065	.38
Frequency	**1 per week**	**5**	**164**	**383**	**.682**	**.661**	**.703**	**.011**	**<.01**
	2 per week	**5**	**164**	**383**	**1.379**	**1.166**	**1.632**	**.118**	**<.01**
	3 per week	**5**	**164**	**383**	**2.255**	**2.014**	**2.525**	**.130**	**<.01**
Patient baseline	Age	5	164	383	.984	.964	1.005	.011	.14
characteristics	Male gender	5	164	383	.852	.462	1.569	.266	.61
	English first language	5	164	383	.623	.316	1.226	.215	.17
	Interest in music	5	163	378	.989	.969	1.009	.010	.27
	Avoidance of music	5	163	378	.993	.804	1.226	.107	.95

	Treatment credibility	5	157	329	.985	.903	1.075	.044	.74
	Motivation	5	141	246	.994	.955	1.033	.020	.76
	Clinical severity	5	164	382	1.387	.833	2.309	.361	.21
Patient clinical	N days in hospital	5	164	383	.997	.994	1.001	.002	.19
characteristics	N previous admissions	5	164	368	.986	.909	1.070	.041	.74
	Length illness (years)	5	160	367	.999	.967	1.033	.017	.97
	Previous music therapy	**5**	**164**	**383**	**.655**	**.485**	**.884**	**.100**	**<.01**
Diagnosis	F10 Substance	5	164	383	.709	.111	4.507	.669	.72
	F20 Schizophrenia	5	164	383	1.271	.601	2.686	.485	.53
	F30 Mood	5	164	383	.800	.470	1.364	.218	.41
	F60 Personality Disorder	5	164	383	1.180	.355	3.920	.723	.79
Medication	Hypnotics and Anxiolytics	5	164	383	2.073	.854	5.034	.938	.11
	Antidepressants	5	164	383	.653	.196	2.177	.401	.49
	Mood stabilisers	5	164	383	.980	.278	3.452	.629	.97
	Antipsychotic	5	164	383	1.509	.639	3.561	.661	.35
	Substance withdrawal	5	164	383	.825	.160	4.243	.689	.82
	Extrapyramidial	5	164	383	.407	.134	1.230	.230	.11

Table 7.15 Univariate associations of significant $p<.1$ between predictors and attendance of the following session

When entered into a multivariate model (table 7.16), none of the music therapy components were statistically significant but measures of patient appraisal and frequency of the group continued to have a positive significant association. Within the full model, the only predictors to remain significant were patient appraisal of the session and frequency, whereby frequency of twice a week had significantly greater odds of attendance the following session and frequency of three times a week had significance of $p=.054$, suggesting a trend. All associations and significance levels were replicated in the sensitivity analysis although additional univariate associations were found for the number of activities initiated by the patient (positive) and the total number of disruptions (negative).

Attendance of following session	Null (2+3 level) and random intercepts models									Akaike's criterion
Block	Variable	NL3	NL2	NL1	Odds ratio	95% CI		SE	*p*	AIC
a)Empty model 2L	Attended next session		59	383	1.320	1.032	1.689	.166	.03	
b)Empty model 3L	Attended next session	5	164	383	1.338	1.053	1.700	.164	.02	524.10
1. Music Therapy	Singing (duration)	5	65	156	1.002	1.000	1.003	.001	.07	
	Initiation by others (total)				.990	.967	1.013	.012	.38	
	Others initiate improvisation				1.048	.962	1.143	.046	.28	
	Others initiate precomposed music				1.055	.983	1.132	.038	.14	
	Time on own in group				1.000	.999	1.000	<.001	.22	206.10
2. Mediators	**Appraisal**	**5**	**163**	**378**	**1.177**	**1.132**	**1.223**	**.023**	**<.01**	
	Frequency 1pw				**.097**	**.061**	**.153**	**.023**	**<.01**	
	Frequency 2pw				**1.515**	**1.283**	**1.790**	**.129**	**<.01**	
	Frequency 3pw				**2.151**	**1.984**	**2.333**	**.023**	**<.01**	502.27
3. Patient characteristics	**Previous music therapy**	**5**	**164**	**383**	**.655**	**.485**	**.884**	**.100**	**<.01**	524.04
4. Full model	Singing (duration)	5	65	156	1.001	.999	1.003	.001	.25	
	Initiation by others (total)				.990	.969	1.010	.010	.33	
	Others initiate improvisation				1.077	.963	1.203	.061	.19	
	Others initiate precomposed music				1.050	.984	1.121	.035	.14	
	Time on own in group				1.000	.999	1.000	<.001	.31	
	Appraisal				**1.093**	**1.018**	**1.173**	**.040**	**.01**	
1pw vs.	**2pw**				**3.278**	**1.538**	**6.990**	**1.266**	**.00**	
	3pw				**2.763**	**.997**	**7.658**	**1.437**	**.05**	
	Previous music therapy				.850	.480	1.504	.248	.58	203.53

Table 7.16 Multivariate associations between variables and attendance of the following session

7.6 Discussion

A final summary of the associations found within these studies is depicted in figure 7.3. Outcomes of appraisal, motivation, commitment and attendance each had a number of significant associations with features of music therapy, patient characteristics and between each other. In particular the models found evidence in support of hypothesis one, partial evidence for hypothesis 2, and contrary evidence for hypothesis 3. These will now be discussed in turn.

Hypothesis 1: Patient appraisal of the session is determined by specific features of group music therapy

Music therapy factors of singing and synchrony had significant associations with appraisal at the univariate level. When grouped together, only duration of singing remained significant with a positive association. Synchrony, whilst positively associated at the univariate level, became negatively associated after being entered into the full model. The strongest effect on appraisal was patient commitment to the group, suggesting that patients who felt a stronger group commitment appraised the session more positively. The frequency of the group appeared to impact upon appraisal. At the univariate level, groups held three times per week predicted a higher appraisal score, whilst those held once and twice a week were predicted to be less. This was not significant when entered into the full model and accounted for around 1% of the variance explained. Music therapy features with significant univariate associations differed in the sensitivity analysis, with initiation of improvisation and singing by patients, therapist initiation of singing and the duration of time patients spent playing music all positively associated and becoming significant. Duration of singing and synchrony were no longer significant. However, patient characteristics and the group frequency still held in this model suggesting that these characteristics may have a stronger effect that those of individual music therapy components.

Hypothesis 2: Patient appraisal of the group is associated with patients' motivation for change and commitment to the group

Patient appraisal of the group was the strongest associated variable with commitment to the group, but was not associated with patient motivation for change. Notably, commitment to the group also had a strong association with patient appraisal suggesting that these two variables have an influence upon each other. Whilst patient appraisal was not associated with motivation, commitment to the group was significantly associated at the univariate level. It may be that positive experiences of the group and feeling closer to group members have a small influence upon patients' motivation for change, but stronger determinants of motivation

rest in the clinical characteristics and experiences of the patient themselves. This might be seen in the associations with length of hospital stay and antidepressant medication. Prescription of antidepressants was positively associated with motivation. Antipsychotics were significantly negatively associated with motivation at the univariate level, which might be indicative of patients with strong negative symptoms. This was further supported in the sensitivity analysis where diagnosis of schizophrenia (F20-29) became significant and was negatively associated at the univariate level. An alternative explanation may be to do with the side-effects of the medication itself with high doses of antipsychotic medication having known side effects of tiredness and slowness (Joint Formulary Committee, 2014). It is notable that length of hospital stay had a negative association with motivation. This may be indicative of becoming demoralised over the course of the hospital stay or of the characteristics of patients requiring longer lengths of treatment.

Within the full model, the only music therapy predictor of motivation was the initiation of singing by other patients in the group. Given the significant association of singing with patient appraisal, it may be that the initiation of this activity by others is experienced as enabling. In the previous study (chapter 6), experiences of emotional expression often occurred through group singing. It may therefore be possible that this variable is associated with or represents this process to some degree.

Factors identified as unhelpful in the previous chapter and related to the patients' experience of being on their own in the group and ability to stay in the group were negatively associated with motivation at the univariate level. Such features may represent patients' difficulty in engaging with the music therapy process and the influence of other group members upon the patient's own motivation. In contrast to the qualitative data, entrances and exits of other patients had a significant positive association at the univariate level, which is difficult to explain. It could be that entrances of additional group members affirm the value of the group to the patient in that others were motivated to attend even though late or part-way through. As music therapy groups are often audible to others on the ward, this could instil a sense of acceptance or appreciation by others. Exits of others could be explained by the characteristics of the person leaving: It might be easier to engage in group music making and reflection when those who are less engaged are no longer present.

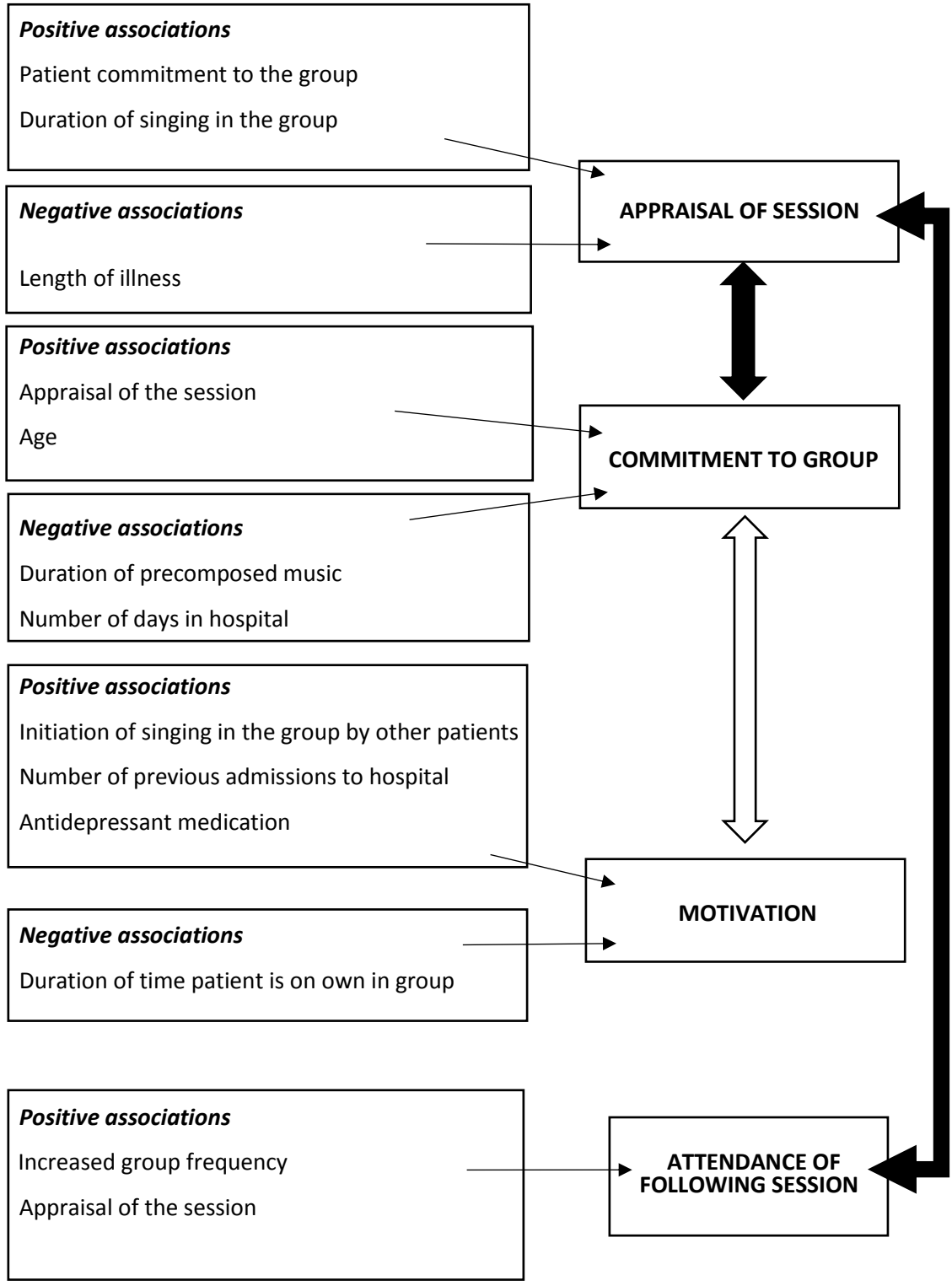


Figure 7.3 Variables with significant associations with patient outcomes of appraisal, motivation, commitment and attendance of the following session

Hypothesis 3: Commitment to the group and motivation for change are predictive of attendance of the following session

Within both the univariate and multivariate models, commitment to the group and motivation for change did not have significant associations with attendance of the following session therefore this hypothesis was rejected. The strongest associations with subsequent attendance were patient appraisal of the session, followed by the frequency of the group itself. This was further supported in the sensitivity analysis, which replicated these findings and in addition found a significant positive association with initiation of improvisation by others and a significant negative association with the duration of time patients were on their own with the therapist during the group. It may therefore be interpreted that patient appraisal of the session is the most important factor in the continued engagement of sessions. The association of subsequent attendance with group frequency might be interpreted as evidence for greater frequency increasing patients' access to sessions and possibly also their engagement with therapy itself. However, the imbalanced sample size (with over two thirds of patients attending groups three times per week) should be noted as the greater number of patients at this frequency may have skewed this finding.

Music therapy factors significant at the univariate level were singing and initiation of activities, particularly singing by other patients. Such findings might suggest that an important factor of maintaining engagement of patients in therapy is by maintaining a critical mass of group members, particularly when taking into account the negative association of being the only group member with motivation.

Singing and the role of others in associations with outcomes

Whilst music therapy factors had varying significant associations in all of the outcomes, within the multivariate models, the duration or initiation of singing was most consistently of importance. Association of outcomes with precomposed music tended to be negative when initiated by others, suggesting that more flexible forms of active music making are of benefit. Within the video analysis, it was noted that precomposed songs were often initiated by a single patient and performed to the group. It could be that the use of precomposed songs in this way prevents others in the group from actively participating, particularly if used by a single patient out of discomfort for improvisation or a need to be heard by the group. From the important event questionnaires, therapists provided examples where they viewed the use of precomposed music as important for an individual patient, particularly in encouraging or prolonging participation and engagement with the group. It is therefore clear that while precomposed music has an important role to play within group music therapy sessions, the

way in which it is introduced and expanded upon may be of clinical importance to the other group members.

Speaking and its association with outcomes

Duration of speaking was negatively associated at the univariate level with commitment to the group, whilst greater initiation of speaking by the patient was negatively associated with motivation to change. Longer discussions may have been indicative of group members' difficulty in beginning to create music together, of a single patient dominating by speaking, or perhaps reflection on difficult interactions or problems within the group. The associations suggest that patients feel less committed to the group when there is more talking and that those who initiate more talking may be less motivated to work on therapeutic change. This suggests that avoidance of music making may be an important feature to consider in the music therapy group.

Patient characteristics and their associations with outcomes

The associations with patient characteristics suggest that clinical features of patients may be important predictors of appraisal, motivation, commitment and attendance of sessions. The duration of time patients had been in hospital (measured by calculating the number of days between admission and consent to the study) demonstrated univariate negative associations with appraisal and significant multivariate associations for commitment. This suggests that the sooner the therapist engages with patients after admission, the more committed to the group they will be. Given the associations between commitment and appraisal, and appraisal and subsequent attendance, making contact with the patient as soon as possible after admission might be a clinically important and potentially beneficial strategy for engaging and sustaining engagement in music therapy throughout their care in hospital.

Patients' age was positively associated with commitment to the group, whilst length of illness and English as a first language were negatively associated with appraisal suggesting that patients of a younger age may take longer to feel bonded within the group whilst those with a longer duration of illness may not view music therapy as positively. Patients with English as a first language tended to appraise sessions lower than those with English as a second (or even third) language. It may be that patients for whom English is not a first language struggle to communicate verbally, and therefore music therapy provided a means of being heard and acknowledged within the group. Examples of this from the qualitative data include patients sharing songs in their own language and explaining the meaning of the song to the group afterwards, connecting with others who spoke the same language as them or improvising in their own language and then explaining the content to others in the group. Patients with a

greater number of admissions were significantly associated with greater motivation, suggesting that although the length of illness impacts upon subjective experiences, this patient group may be more motivated to engage with therapeutic processes as a means of change. Patients' pre-existing interest in music and perceptions of the credibility of music therapy as a treatment were not significantly associated with any of the outcomes. It may be possible that interest in music is more predictive of musical engagement within sessions, yet this finding suggests that interest in music in itself, or a lack of should not impact upon patients' ability to engage with, commit to the group and attend sessions. For treatment credibility, it should be noted that this scale exhibited a large ceiling effect with an average score of 15.9, and 63% of responses ranging from 16 to above. Such a score may suggest the high acceptability of music therapy as a treatment to patients, but may have limited the ability of the scale to predict to what extent patients' belief in music therapy (or lack of) contributed to engagement and attendance.

CHAPTER 8

Discussion and Conclusions

8.1 Introduction

The purpose of this chapter is to discuss the empirical findings from chapters 5, 6 and 7 in order to provide answers to the original research questions posed at the beginning of this thesis. Strengths and limitations of the methods of investigations will be discussed and the findings compared with existing literature in related fields. The implications of the findings will then be considered in relation to clinical practice, government and National Health Service policy and further research.

8.2 Answers to research questions

Thesis aim 1: To identify how music therapy is delivered within acute inpatient settings.

This aim sought to provide an objective description of how music therapy is provided in acute inpatient settings, in terms of the clinical methods and activities used by music therapists in sessions, the extent to which music and speaking were used in particular, and to identify salient features of the musical characteristics of group playing.

The findings from the video analysis presented in chapter 6 identified that improvisation was by far the most dominant musical activity within sessions, accounting for approximately half of the session. The remaining half of the session utilised verbal discussion. Precomposed music featured less frequently within sessions, present in 76% of the sessions (N=55) and lasted on average for just under five minutes, up to a maximum of 25 minutes. Precomposed music often took the form of song and could occur either as a solo performance by a patient, or within the larger context of a group improvisation. Singing could also be improvised where such improvisations were often initiated by the therapist and then followed by group members. Tuition and receptive listening were used less frequently and only happened in one session each. Periods of silence occurred in 81% of the sessions and lasted on average for just under 1 minute, with a maximum duration of 6 minutes. Fourteen of the sessions (19%) had no periods of silence at all.

Patients were actively engaged in music making for just over a quarter of the overall session, although this increased to just under half the session when the average duration of time

present was taken into account. Moments of whole group synchrony occurred in the majority of sessions but lasted on average for just over 6 minutes. Joint musical endings occurred on average once per session, but happened in only 56% of sessions (N=40).

Therapists were generally led by patients, with patients initiating approximately 60% of the activities within sessions. Patient initiation was greater than therapists for all activities apart from singing, where initiation of singing was done equally between the two. Patients participated actively for on average just under half of the session, although when the duration patients were present were taken into account this accounted for approximately 86% of the session. Entrances and exits during the session were frequent occurrences with only 10% of the sessions (N=7) having no disruption during the group. The most frequent disruption was by patients entering or leaving, with patients coming into the session on average 1.4 times per session. In contrast, patients were on their own with the therapist in the group on average for four minutes in a session. Eight participants had the experience of being on their own for an entire session (11% of sessions).

In conclusion, group music therapy sessions within acute inpatient settings are equally split between active music making and verbal discussion. Improvisation is the predominant method, although other more structured methods are used flexibly, introduced primarily by patients and followed by therapists. Patient attendance is characterised by frequent coming and going in the session, with frequent disruption to the session and patients staying on average for half of the overall session duration. Despite fleeting attendance, patients tend to participate actively for the majority of time that they are present in the session, with equal time given to music making and verbal discussion. Therapists generally follow patients' lead but are especially active in initiating singing. Whole group synchrony generally occurs during the session, but joint musical endings only usually occur once during the session.

Thesis aim 2. To assess the acceptability of intensive group music therapy to acute adult psychiatric inpatients

The purpose of this aim was to ascertain the extent to which patients made use of an increased frequency of sessions and to explore their views regarding the provision of music therapy more than once a week. Descriptive analysis of attendance data including reasons for non-attendance and end interviews were used to address this.

The strongest indicator of acceptability came from data on session attendance, presented in chapter 7, which demonstrated that patients attended on average three times as many sessions as those offered once per week. It can therefore be concluded that patients made use of the increased frequency of sessions. Across all three frequencies of group, patients attended only half of the sessions available to them whilst in hospital. The reasons for this were explored in full as part of the third objective of the thesis and are considered below.

Patient views regarding the acceptability of increased frequency were, on the whole, favourable, with patients suggesting that this was either enough, or that they wanted more. Reasons as to why this frequency was acceptable included freedom to choose whether to attend or not, the advantages of accessing a session more quickly if unable to attend a session that day, a more stable group membership, a better experience of the therapeutic process and the group routine providing a means to structure time.

Disadvantages of the increased frequency included potential reduced access to other types of activity, and sessions becoming repetitive or lacking variety. Some patients expressed a wish for sessions to be of a longer duration in preference over increased frequency, with 90 minutes cited as an ideal time. Reasons for this included the perception of time going quickly during sessions and a wish to capitalise on the group becoming more cohesive towards the end of the session. Others suggested incorporating a more educational focus into the additional sessions as a means of learning how to play instruments to maximise the group's ability to play together for the time they were together in hospital.

Over the course of the study, one participant in the twice weekly group chose to reduce attendance to weekly sessions, whilst two long stay patients in the three times per week group negotiated less frequent attendance with the therapist. One took a one week break, but reported that he had not done anything with his time during this break. The second attended weekly for three weeks but then disengaged from therapy.

On the basis of these findings it can be concluded that increasing the frequency of music therapy to three times per week is acceptable for the majority of patients and results in a range of therapeutic benefits from the patients' perspectives. However, the increased frequency is not for all patients: For some this is due to a perception of repetition leading to boredom whilst for longer stay patients, the intensity of sessions may need to be thought about between the patient and therapist. It was notable that freedom in being able to choose to attend or not was an important factor in positive perceptions of this increased intensity. The

manner with which therapists worked with patients regarding their initial engagement is further explored in the last objective.

Thesis aim 3. To explore associations between music therapy components, patient subjective experiences, motivation, commitment, attendance and patient clinical and sociodemographic characteristics.

The final aim of this thesis was to examine associations between components of music therapy and patient outcomes of appraisal of the session, motivation for change, commitment and attendance. The model upon which this was based postulated that patient appraisal may be a means of identifying the relative importance of music therapy components. The model hypothesised an inter-relationship between appraisal, motivation and commitment to the group whereby positive appraisal would increase motivation and commitment, leading the patient to attend the following session. This section of work had four objectives: In order to identify components of interest, the first objective was to identify and describe the features of events experienced as important in therapy. Qualitative accounts were examined to identify these features from the perspectives of both patients and therapists. The second objective was to then describe how music therapy contributed to these events, resulting in a summary of the major processes that occurred along with features of helpful and unhelpful events. The third objective then employed a quantitative methodology to explore associations between components of music therapy and patient outcomes of appraisal of the music therapy session, motivation, and commitment to therapy, accounting also for clinical and socio-demographic characteristics of patients. Finally, the fourth objective explored patterns and predictors of attendance. Associations were examined between music therapy components, patient motivation, commitment, musical engagement and session appraisal to identify variables within patients and music therapy sessions that might predict attendance of the subsequent session.

Objectives 1 and 2: The contribution of music therapy processes within patient and therapist important events

A strong correspondence between patient and therapist events was found in a quarter of all important events. Events were experienced mostly within the musical activities themselves or detailed an aspect of participation or interaction with others. Three core processes of music therapy were depicted. The first involved engagement of the patient in music therapy through attendance, musical participation and sustaining attendance for the duration of the session.

Music therapists were active in creating and maintaining relationships with patients and proactively sustained these even when attendance was rare. Therapists encouraged use of and exploration of instruments and worked with patients to find ways of bringing them into the music, often by suggesting sharing of a precomposed song. When unable to stay therapists would also try to reflect upon possible reasons for this in the group. Over time, patients within this process began to reflect upon their own ability to engage and participate and articulated that this process was of equal importance to them. The second process described the process of becoming aware of, expressing and moderating emotions through music. Examples of these events often described the music as expressive and intense, and featured improvised singing. Verbal discussions after this musical expression then involved reflection upon the music, leading patients to discuss and reflect upon the emotions they were experiencing, or problems and concerns. The final process involved becoming aware of oneself in the group, of the contributions made, their impact upon others and musical interactions between group members. Roles and relationships created within music-making were reflected upon afterwards with patients suggesting this contributed to better social relationships between group members and clarity of thought. Music therapy activities implicated within these processes were based within the interactions that were created through active, mainly improvised music making and the reflections upon these interactions and wider problems after the event. Patient identified helpful and unhelpful features suggest that the therapists' attitude and interventions, composition of the group, the ability of other members to engage and participate and cohesion within the music were features important to their appraisal of sessions. The resulting analysis led to video coding of the type of activities that took place within music therapy sessions including: the number and types of activities initiated by patient and therapist; the level of patient engagement as measured by duration of patient attendance, participation and number of times in the group; musical engagement, measured by the duration of time the patient spent actively making music; musical cohesion, measured by duration of whole group synchrony and number of joint musical endings; disruption, measured by the number of entrances and exits during the session and isolation, measured by the duration of time the patient was on their own within the session.

Objective 3: Associations between components of music therapy, patient characteristics, motivation, commitment to the group and appraisal of the music therapy session

Quantitative data provided by patients and from video coding were entered in to a multilevel model to explore which features of music therapy and patients were associated with patient appraisal of sessions. Given the role of engagement as a primary music therapy process with

acute inpatients, the model of appraisal, motivation and commitment might therefore provide a means of identifying which features in particular contribute to this process of patient engagement in music therapy.

The multivariate model found patient commitment to the group to have the strongest association with patient appraisal. This association was positive, suggesting that the more committed to the group patients felt, the more positive the appraisal. Duration of singing was the only component of music therapy with a positive association that remained significant in this model. The length of time the patient had been in hospital was the only significant patient characteristic, which was negatively associated.

A reciprocal relationship was found between commitment to the group and session appraisal as appraisal was the only significant predictor of commitment to the group. Motivation was not associated with session appraisal but had a positive association with commitment to the group at the univariate level. This did not hold when entered into the multivariate model. Instead, the strongest predictors of motivation were patient characteristics of receipt of antidepressant medication, followed by the number of previous hospital admissions. This suggests that motivation may be influenced more by individual patient characteristics. The positive association with antidepressant medication may be indicative of the presentation of patients with mood disorders compared to psychosis, or it may be a result of the medication itself. Likewise, a positive association with number of previous admissions may indicate a desire to recover and stay well, or it could be an indicator of patients' familiarity with inpatient services and modes of treatment offered. The only component of music therapy to remain significantly positively associated with motivation was initiation of singing by other patients. Given the association of singing with appraisal and potential role of singing as a means of emotional expression, the initiation of singing by others may be experienced as facilitating a process that was experienced as helpful by patients. In contrast, the duration of time spent as the only group member in the session had a significant negative association with motivation. This finding corresponds to patient reports of low numbers in the group or being the only group member as unhelpful. Both this and the initiation of singing by others might represent the importance of the group and its members to patients' experiences of therapy and might therefore represent traditional therapeutic group factors (Yalom, 1983).

In summary, appraisal and commitment to the group were strongly associated with each other, whilst commitment to the group played a small role in the promotion of motivation. Singing appeared to be the most important music therapy component with duration positively

associated with appraisal of the session and initiation by others positively associated with motivation. The presence of other group members appears to be another important factor in inpatient group music therapy and might therefore be a moderating mechanism between the impact of the musical activity and motivation.

Objective 4: Patterns and predictors of attendance of group music therapy

Examination of attendance data found that patients attended on average, three times more sessions in groups offered three per week than those offered music therapy once a week. Whilst this finding may be taken as an indication of the acceptability of intensive group music therapy, it was notable that across all three frequencies, patients attended only half of the total sessions available to them whilst in hospital. Examination of reasons for non-attendance found that leave from the ward was the most common reason for patients not to attend. The next most frequent reason was the patient declining to attend. Patients did not provide a reason in two thirds of cases, but those who did often explained they did not feel up to attending either due to tiredness or not feeling well. A further 51 instances occurred when patients, even if willing to attend, were unable to due to being unrousable from their sleep, or too distressed to attend (N=2). Patients were prevented from attending in 29 instances due to implementation of risk minimisation strategies which confined patients to the ward on the site where music therapy was off the ward, or required patients to be on one to one observations. In total, the number of instances where patients were available to attend, but chose not to, accounted for only 28% of the overall non-attendance (Total declines=204; Said yes but did not attend=16). Non-attendance due to the session being forgotten about by patients, or patients being forgotten by therapists accounted for 3% of total non-attendances. It can therefore be inferred that patients generally attend music therapy when confined to the ward and are not prevented from attending due to their physical or mental state, or by risk management strategies associated with this. The findings suggest the importance of the overall timing of the group in the hospital day and of communication between staff- a feature of inpatient music therapy work that was highlighted in the systematic review in chapter 3.

In line with the focus upon participation and engagement, patients presented with varying patterns of attendance. Just under one third (29%) of patients attended consistently whilst confined to the ward, but ceased to attend once leave was instigated. If the further 7% who attended all sessions available are taken into account, this suggests that one third of patients will make full use of sessions whilst confined to the hospital ward. This figure rises to 50%

when accounting for the further 14% whose absence from sessions was accounted for by external appointments or transfer to another ward.

Intermittent attendance was demonstrated most frequently in groups that were run 2 and 3 times per week. This group of patients accounted for a further 28% of the sample, suggesting that for this third of patients, increased group frequency was either less acceptable or less likely to be used to its full potential. In contrast, 5% of the patients within frequencies of two and three times per week demonstrated a gradual engagement, whereby attendance began sporadically, but then led to a period of sustained attendance. Full disengagement from music therapy occurred in 12% of cases, of which 71% occurred in groups occurring three times per week. This suggests that for some patients, increased intensity may not be tolerable, or that the increased intensity may only be beneficial for a short period of time. It should be noted that not all cases of disengagement may have been assessed from the group offered once a week as patients were often discharged before a full pattern could be seen. However, this could also suggest that offering sessions less frequently prevents such disengagement from occurring and might therefore be perceived as providing a more beneficial therapeutic experience for the patient. Finally, 10% of the sample did not attend a single session, most often due to being discharged before the next music therapy session occurred. It should be noted that the procedures for recruitment into the study often incurred a longer delay than would usually be encountered in clinical practice, with a minimum of three days before the patient provided consent to take part. However this finding also reflects the importance of early engagement with patients after admission if they are to have access to the maximum number of sessions. This needs to be balanced with presenting symptoms and readiness to engage in therapeutic groups.

The range and scope of activities upon the ward may have had an impact upon patients' decision to be involved in the music therapy groups. The scheduling of groups, particularly those offered 2 and 3 times per week was difficult to accommodate into existing group programmes. Where groups were scheduled close to meal times, smoking breaks, ward round or another group, this could impact upon patients' decision to attend. Similarly, as seen by the attendance data, once leave off the ward was granted, patients often prioritised this over attending the group, particularly if the group took place during the day time. This was less of an issue for groups held in the evenings, when patients with a few hours leave often returned to the ward although these were still affected when patients had overnight or longer stretches of leave. There is some disparity between the relatively full group timetables and demand upon patients' time with both the literature discussed in chapter 1 and patient comments of

being bored or having nothing to do. For some patients, engaging in a full day of activity and social interaction may be a huge challenge when experiencing acute symptoms and after potential long periods of social isolation. For others, learning how to manage and structure time either to do more activity, or less, may be an area of need. These challenges are reflected in the work the music therapists did in engaging patients in music therapy and to some extent, are shared across inpatient groups as a whole.

The perceived activity content of music making may have played a role in patients' decision to attend. As seen in the patient interviews, some patients spoke of music therapy in terms of a music lesson or jam session. The idea of accessing a therapeutic group with a novel activity (music making) may have been appealing to patients who did not wish or feel able to use more talking based groups. Whilst some sites had a range of music based groups to access whilst in hospital, participants that did access these suggested that their experiences of music therapy had been qualitatively different, particularly in terms of the opportunities to interact musically with other people, for nonverbal musical expression and to reflect upon emotional and personal issues. This difference was reflected particularly in participants' comments regarding the therapists' attitude and presentation in the group. Whilst therapists were often described as tutors, teachers or leaders, features that were valued were their ability to be understanding, listen, demonstrate confidence in their own identity, convey a sense of equality and of being valued amongst group members and offer important reflections or questions to the group. The predominance of patient initiation of activities in the sessions and patient experiences of self-discovery and learning may be a reflection of this therapeutic attitude and a means of promoting patient autonomy. The distinction of these features as reported by patients might serve as an indication of what makes these groups *therapeutic* as opposed to *activity* and a means to occupy time.

The multilevel modelling of predictors of subsequent session attendance identified appraisal and group frequency as the only associations reaching significance. This suggests that once group frequency is accounted for, the subjective experience of the music therapy session is the strongest predictor of attendance the following session. In terms of frequency all group frequencies were significant when compared to the other group frequencies in the univariate analysis. Patients with music therapy offered once per week were 32% less likely to attend the following session whilst those attending twice a week were 38% more likely and those attending three per week 125% more likely to attend. When entered into a multivariate model and accounting for all other significant factors at a univariate level, the odds of attendance increased for both 2 and 3 times per week groups, but the odds of attending in the three times

per week group just failed to reach significance (p=.051) whilst the twice a week group was the only group frequency to be statistically significant. The findings provide strong evidence that increasing the frequency of sessions increases the odds of patients sustaining attendance, although it should be noted that the number of patients within each of the frequencies differed significantly and estimations for those attending once and twice per week may not be accurate reflections.

Features of music therapy significant at the univariate level confirmed further importance of the role of singing and presence of others in the group. Initiation of improvisation and precomposed music by other patients increased the odds of subsequent attendance by approximately 5% each. Duration of time spent on their own in the group conversely reduced the odds of attending by 1%. None of these associations were significant within the multivariate model suggesting these features of music therapy may be mediated by the session frequency and patient appraisal of the session as a whole.

Summary of findings

Music therapy appears to play an important role in patients' care whilst in hospital, providing a means of encouraging engagement in therapy, moderating emotions through musical expression and building awareness of and developing social interaction leading to greater bonding between patients and a sense of support. The intensity at which music therapy is provided may serve to quicken or deepen the course of these processes through increasing access to a greater number of sessions, providing greater structure to time on the ward and stability of group membership which in turn leads to a greater sense of trust and group cohesiveness by patients. Processes are experienced by patients as a sense of learning through access to joint creative interactions and as a means of learning by experience, or action. Active music making plays the largest role in these processes, with therapists encouraging participation, engagement, musical expression and cohesion, and meaningful verbal reflection, led primarily by patient actions, but providing direction should boundaries or group direction be required. The use and initiation of singing by other group members appears to be of particular importance as are the number of group members and levels of member participation, all of which are associated with ensuing patient appraisal, motivation and commitment to the group following the session. The experience of patients during music therapy is of primary importance in determining whether or not they will attend the following session, as is the length of time between the patient being admitted to hospital and initial attendance of music therapy. This length of time not only determines the number of sessions a

patient might potentially access whilst in hospital, or before leave is instated, but also has an impact upon the potential for strong positive experiences and building of group commitment. Increasing the intensity of group music therapy appears to have numerous potential benefits for patients, but may not be taken up or preferred by all. The increased frequency was generally seen as acceptable, particularly when offered without mandatory attendance, and when offered in this way was taken up to the same extent by patients compared to lower group frequencies.

8.3 Methodological Challenges

Challenges encountered when conducting the research included the existing service setup and obtaining full sets of data from participants. Within scale development focus groups and interviews, there was a particularly low response rate. This is in contrast to the relatively high rates of participation noted in the literature. As can be seen in the risk of bias assessment in chapter 3, it is notable that within qualitative studies of music therapy, reporting of the total population the sample was drawn from is relatively scarce. Participation offered no incentive and occurred whilst receiving music therapy and still receiving care for acute mental health problems in hospital. It may be that this had an impact upon both patients' capacity and motivation to participate. It is also notable that this was the first study conducted by the candidate and music therapists at these hospital sites. Despite extensive planning with the music therapists and piloting of information sheets with service users, it took time to understand how best to introduce, explain and engage patients in research. Future studies could mitigate this by speaking with the patient population through either user-led groups, or ward community meetings directly to gain feedback not only upon the patient literature but also upon how to best approach and explain this in person. The experience also highlights the importance of collaboration with a range clinicians who can provide a better understanding the systems within which they are working and setting specific features which might help or hinder the research. Whilst the discussions with music therapists helped to mitigate many potential problems, wider discussion with the ward nursing teams may have uncovered further considerations and ways of mitigating these.

Within the prospective study, recruitment was limited by having only one researcher (the candidate) to perform consent and assessments over 3 sites. This limited the time present on the wards to follow up patients and was further limited by patients' use of leave off the ward. In this case, a larger research team would have enabled researchers to be present immediately after every session thus increasing the chances of meeting with patients as soon as possible.

Participants in this study often commented that presence of the researcher as a participant-observer would have been valuable. When designing the study, this was avoided as it was felt having the researcher presence might influence the responses given by participants. However, on reflection, presence in the session might have provided a better means of understanding what had happened in the group and thus enabled more in-depth discussions with patients on their experiences after the session. This would have been particularly helpful in cases where participants did not necessarily have the language to describe a particular event, instrument or section of music.

Regarding the existing service setup, none of the sites were currently offering group music therapy more than once per week to a single ward and instead were offering on-ward groups once per week, and then a wider off-ward group (sometimes combined as a cross-modality of music therapy plus another arts therapy) once per week. One site occasionally also offered individual sessions. The third site did not have any music therapy at all, although it had a large occupational therapy and arts therapies department. It became clear through discussions with the existing music therapists and managers that offering music therapy more than once per week would be disruptive to existing service arrangements. The part-time employment of the music therapists also meant that other services would have to stop if this were to be accommodated. Through discussions with services, the research was then designed to take into account these limitations. This led to one site being assessed with its service as currently provided (one session per week on the ward), one site modifying existing groups for two wards, placing the group off the ward and utilising two therapists to accommodate a twice weekly group, and the third site introducing 3 new music therapists to the site to offer group music therapy three times per week. As noted previously, the full group programmes meant that it was necessary to offer sessions in the evenings and weekends. This way of working was being encouraged at this site after patient requests and a handful of occupational therapy and arts therapy groups were also offered in this way, however, it should be noted that this is not generally common practice within NHS settings. The experiences within this research highlight the importance of early involvement of services when designing studies and of ongoing communication throughout.

8.4 Strengths and limitations of the research

8.4.1 Strengths of the research

This is the largest observational study of group music therapy processes conducted within an NHS acute inpatient setting which utilised data from the point of view of the patient, therapist and observational data from video recordings of the sessions themselves. The repeated measures design enabled analysis of full music therapy processes for 114 patients which provided both descriptions of the course of therapy and sessional outcomes enabling outcomes to be linked directly to the processes within therapy itself.

All patient and therapist data were collected by the candidate. As the candidate did not run any music therapy sessions herself, this provided the potential for participants to reflect with greater honesty regarding their experiences during the session. The repeated measures design meant that rapport was built with patients over the course of their time in the research enabling a greater quantity of data to be collected, and greater richness in the experiences described.

Use of framework techniques enabled an analysis that incorporated vast amounts of data yet ensured grounding within the essence of the data. This was further enhanced through video observation and detailed coding of the activities and events that took place. Similarly, within the quantitative analysis, the use of repeated measures enhanced the potential power to detect an effect. Use of multilevel modelling, as opposed to linear regression meant that correlations and clustering between observations for the same session and therapist could be accounted for, potentially improving the accuracy and estimation of effects.

8.4.2 Limitations of the research

The study has a number of limitations which also affect the extent to which these findings may be applied and generalised. The frequency of music therapy groups was determined pragmatically in that two of the sites had existing music therapy services and therefore were unable to accommodate a group three times per week within the current clinical commitments of the therapists. This led to a comparison of groups offered both once, twice and three times per week. Provision of the three times per week groups involved the setting up of a new music therapy service within one of the hospital sites, and therefore may have impacted upon both the initial take up (either through slow referrals, or staff or patient enthusiasm) and appraisals

by patients. In order to recruit adequate numbers for statistical power, a total of five groups were required. As the study of intensive group music therapy was the focus of this thesis, it was therefore decided to maximise the number of three weekly groups resulting in a larger proportion of the sample accessing this frequency. The imbalance in numbers means that comparison between frequencies may not be as accurate for the lower frequency groups.

The format of group provided also differed on two sites, where one group was in a designated music therapy space off the ward covering two separate wards and another was a single open group on the ward. In contrast, groups held three times per week were semi closed and required referral to the group. This may have influenced the processes within the groups themselves and contributed to aspects such as group cohesion, in addition to the increased frequency.

The candidate was the sole collector of data for patients, and given experience as a music therapist running acute inpatient groups, may have influenced the responses of patients and introduced bias into the interpretation of results. The status of the researcher as coming from 'outside' the hospital and her association with the music therapists may have introduced a power imbalance within assessments and may have led patients to appraise sessions more positively than they actually felt (Gilburt, Rose & Slade, 2008). Measures to counter this bias included the use of a music psychologist to assist with the coding of questionnaires and video data and presentation and discussion within the candidate's unit. However, it is acknowledged, especially given the large corpus of qualitative data that a much larger interdisciplinary team would have been preferable to be involved throughout this analysis as would involvement of a service user researcher.

Another limitation stemming from the size of the data collected is the level of detail captured when coding the video data. Whilst consistent agreement was eventually reached across domains, it was noted in research meetings that there were many events within the videos that appeared important but were not captured in the coding. A frequent example was that of free musical expression, where patients were fully involved in music making and playing freely and expressively with sensitive response to another. Such interactions may be captured through use of ratings scales as discussed in chapter 4 (for example, Pavlicevic's Musical Interaction Rating Scale) but would have required a much longer timeframe, greater training and monitoring of inter-rater reliability than was possible within the timeframe for this study. Whilst 114 patients took part in the study, only 15% of the sample were interviewed at the end of therapy. The characteristics of the sample suggest that this provided adequate

representation of the different groups, frequencies and appraisals provided by patients, but cannot be deemed to be representative of the sample as a whole.

The primary outcome, appraisal, was measured using a scale developed by the candidate in the first stage of doctoral studies. Whilst the scale demonstrated good face validity and adequate consistency, the variability of outcomes was limited heavily by the tendency of patients to rate sessions very positively, resulting in a 'ceiling effect' (Streiner & Norman, 2008). The bivariate response meant that notional cut-off points could be determined to distinguish between greater and lesser appraisals of sessions, but in future studies the scale may require either addition of further items or item responses, possibly with greater emphasis upon negative experiences of sessions (Ruggeri et al., 2003). Given the scale had only 3 items, factor analysis was not performed. Similarly, temporal stability (or test-retest reliability), criterion validity, predictive validity and discriminant validity of the scale were also not assessed. Despite this limitation the scale provided a means of quickly assessing patients' subjective responses to sessions and may therefore be of clinical utility in the future. It is notable that some patients felt that reversed questions across all outcome measures had been placed to 'trick' them or 'catch them out' and this may also be an important experience to bear in mind in any future research with this client group.

Regarding the multilevel modelling itself, it should be noted that the models were produced based upon prediction from a single session, and as such did not incorporate any potential effects of time upon responses. Similarly in the modelling of subsequent attendance, both time and reasons for non-attendance were excluded from this model. It might be possible that the estimates and significance of variables upon outcome differ substantially, should these features be incorporated.

The multilevel model describes purely associations and it therefore does not describe relationships of cause and effect. Some of the relationships described within these models may therefore be interchangeable. For example, patients who are more likely to attend sessions, will tend to appraise sessions more highly. Positive appraisal may therefore be an unmeasured characteristic of the participant in themselves and not as a result of the content of the music therapy session. The video analysis made comparisons only between music therapy groups and did not compare with wider music activity groups or talking groups. In order to determine exactly the nature of any specific music therapy factors, further research will need to explore features of more general music making groups in order to discern whether approaches that influence patient outcomes differ significantly or not.

The use of quantitative methods within music therapy research is often a hotly contested debate. Researchers from social and ethnographic backgrounds have argued that quantification of aspects of creativity and relationships detracts from the true value of the use of an arts form as a therapeutic medium, and that experiences with music and art are so unique to the individual such estimation and aggregation will not accurately represent the true nature of the processes that occur (De Nora, 2013; Procter, 2011). However, many other music therapists have successfully completed randomised controlled trials (for example, Gold et al., 2005; 2013; Morgan et al., 2011; Talwar et al., 2006), which have influenced clinical guidelines (NICE, 2009) and have demonstrated the possibility to develop an intervention that is close to clinical practice whilst providing rigorous evaluation. It is the view of the candidate that by generating quantitative data based upon the detailed exploration of experiences of patients and therapists, such quantification may be useful in testing not only the theories of the processes that were developed but also in uncovering other unexpected associations which may stimulate further exploration and thought within music therapy research. Whilst the use of statistical modelling removes the nuances and detail of the experiences of patients and therapists, this is complemented by the rich detail provided from participant accounts and through repeated analysis of the video sessions. Such advantages offered to music therapy research by incorporating mixed methods have been noted by methodological experts in mixed methods research and further exploration of how more sophisticated methods of quantitative and qualitative analysis may be of benefit to future studies of music therapy (Bradt, Burns & Cresswell, 2013).

A final limitation regards the extent of missing data within this study. As no strict time frame for attendance was given, participants were part of this study from between 1 day to almost 5 months. This led to an unbalanced dataset, with many occasions without data, if a patient had failed to attend a session. As outcomes were only collected from those who attended a session, analysis may be therefore be biased in favour of those who had already committed to and engaged in therapy. The sensitivity analysis with multiple imputation of the dataset provided some support for the robustness of findings, particularly associations with attendance, although music therapy predictors were less stable with a range of predictors either gaining or losing significance. It should be noted that the sensitivity analysis is based on the assumption that data are missing at random. This was not true for the music therapy variables, which had been coded from purposively selected video recordings of sessions. It may be that the missing data and size of the dataset was not enough to detect the relatively small effects that these variables had. Within the wider psychotherapy literature, specific

treatment effects have been estimated as being at most, accountable for 8% of improvements in outcome (Wampold, 2001), therefore the power to detect such effects within this research design may not have been adequate. Finally, it may be possible that such music therapy techniques are not associated with outcomes, although the univariate associations with the multiple imputed data suggest that such associations may indeed exist, although they are likely to be very small. Further research is needed to investigate these possible associations with more accuracy and in more detail.

8.5 Comparison with literature

The findings from this thesis are concordant with clinical case descriptions and theoretical papers regarding music therapy in acute inpatient care. The systematic review in chapter 3 found that across music therapy internationally, challenges regarding the short stay, high turnover and symptom severity of patients led therapists to modify their practice to focus upon engagement of patients in therapy, immediate moderation of emotional arousal, and focus upon interactions that occurred within the immediacy of the session itself (Carr, Odell-Miller & Priebe, 2013). Precomposed music appeared to feature more prominently than in wider music therapy mental health models, and a particular role of structure was proposed. Later papers have focused upon the role of music therapy in promoting recovery and 'wellness' with patients, and the models of 'resource-orientation' and 'mentalization' are increasingly being examined and developed from a music therapy perspective (Hannibal et al., 2012; Rolvsjord, 2010; Solli & Rolvsjord, 2014; Strehlow, 2013).

The practice of music therapy groups within this study generally correspond with these findings, suggesting that features of resource-oriented approaches are encompassed within acute inpatient music therapy groups in the UK. However, it was notable that the level of therapist initiation within sessions was notably less compared to patients, suggesting that whilst the literature suggests greater direction may be required from therapists, therapists still employ a predominantly patient-led approach. Such an approach may be of particular relevance to account for fluctuating presentations and wide-ranging needs that may present within a single session.

This study found mixed evidence regarding early departures and late arrivals to the session. Based upon the qualitative data, patients suggested that such events were experienced in a negative light, causing disruption to the group process and feelings of abandonment when others left. In contrast, the multilevel modelling suggested a positive univariate association

between the number of entrances and exits to the group and motivation. In the multivariate model this association changed to a negative association for exits from the group and both were no longer significant. There is therefore a balance to be made between allowing patients to take charge of when and how they engage, encouraging engagement and attendance and minimising disruption to the group process. Patients suggested that they valued being able to choose whether to attend a session or not. Within the inpatient environment, choice and personal freedom are restricted. Procter (2002) notes how the psychiatric inpatient environment and hierarchical structures can be experienced by patients as repressive and dehumanising. He argues that through music making, such aspects can be recovered and conveyed to others. Being able to choose to attend may convey to patients that for this group they can reclaim some autonomy and may also provide acknowledgement and understanding of their current situation. Within the sessions themselves, being accepted and allowed to attend when late provided opportunities for the group to acknowledge the challenges and difficulties in attending and prevented experiences of being denied or punished for not being able to attend on time. Conversely, being allowed to leave before the end gave patients a means of self-managing what they could tolerate. Again, therapists often took the opportunity at this point to encourage patients to stay a little longer, acknowledge the difficulty in doing so and highlight these individual needs to the group. In some cases, this was successful and provided a means of acknowledging individual patients' challenges and a means for other group members to learn how to acknowledge and take others' needs into account. Overall, such an approach is consistent with more recent policies of patient-centered care (Sainsbury Centre for Mental Health, 2006; Healthcare Commission, 2008) and gives control to patients in managing their illness.

Studies examining the use of music therapist techniques with mental health populations have identified a general tendency towards use of additional precomposed music and songs. Odell-Miller (2007) identified that across a sample of music therapy psychiatric clinics in Europe, therapists tended to employ support psychotherapeutic or psychoanalytically informed approaches to their work, with free improvisation and minimal talking or talking with verbal interpretation featuring most commonly across all diagnoses. In contrast, precomposed songs and techniques with less emphasis upon symbolic thinking (such as theme based improvisations, role play or play rules) were most prominent in work with patients with psychosis. Similarly, Mössler et al.'s (2012) study of music therapy techniques as predictors of outcomes identified a positive association of reproduction techniques with interpersonal problems and social relationships whilst production techniques (such as improvisation) appeared to have a negative association with social relationships. To date this study is closest

in terms of methodology to the present thesis although within Mössler et al.'s study music therapy was provided to individuals, not in groups, quantification of techniques was based upon therapist report and measured only at three time points. The findings from this study correspond in that there appears to be a role for precomposed music. Mössler et al. suggest that the ready-made musical structure of precomposed music provides a means of supporting patients in creating musical expressions when unable to create one themselves. From the qualitative accounts, it appears that precomposed music tended to occur in cases where patients felt anxiety, discomfort or a need for greater structure or order within the group. As can be seen from the descriptive data from sessions, patients were more likely to initiate this than therapists but therapists would generally follow the patient's lead and improvise around this structure, possibly as a means of maximising engagement and encouraging greater musical connection. A different, but important finding from this study was how therapists created strong musical structures within improvisation in order to increase musical cohesion within the group. Whilst it was hypothesised that synchrony might be a marker of this process and therefore associated with patient outcomes, no significant associations were found. Rather, it was the experience of group singing and initiation of this by others that were the strongest predictors.

Synchrony and singing are two features of acknowledged importance within music therapy. However, relatively little has been written regarding their role in work in mental health. The musicologist Nigel Osborne (2009) has investigated the relationship between biological clocks within human physiological processes and rhythm. He explores the idea that "musical rhythm is an 'externalisation' of inner biological rhythms" (p.561) and as such may be the means with which humans coordinate with each other through entrainment of their inner processes and movements to a shared pulse. He suggests:

> "The chronobiology of music has the power to carry detailed information about the state of body, emotions, motivations, energy and vitality of the performer and share all this with others through the common properties of their motive states. In this coordinated state of being rhythmically 'with' others..., it is argued that the phenomenological present may be appreciated in a common homeostasis of thought and consciousness, and may lead to the sharing of both emotion and common sense of agency in elaborate stories of purpose and experience…" (Osborne, 2009: p.561)

Similarly, cognitive psychologists Cross & Morley (2009) suggest that musical interaction stems from processes of finding and generating a pulse from within individuals. They suggest:

> "These processes implement the optimal allocation (modulation in time) of attentional resources and may focus experience in hierarchical temporal structures. The perceptual processes are integral to the prospective temporal control of periodic motor behaviour. Music as an interactive social behaviour thus affords the means for synchronizing the deployment of a participant's experience of moving with that of other participants, facilitating the individual and the collective (intersubjective) focus on specific moments and sequential patterns in the temporal unfolding of the music." (Cross & Morley, 2009: p.68).

They note Brown's (2000) suggestion that music can thus contribute to group formation through the opportunities it affords of formation and manifestation of group identity, collective thinking, group coordination through synchronisation and group catharsis (the collective expression and experience of emotion).

The synchronisation of a group to a single pulse within the music might thus provide a means of entraining individual internal states to a shared collective state. Such entrainment facilitates group coordination (moving together), along with shared attention and expression. This process is akin to states of intersubjectivity described by Stern as a feature of 'present moments' (Stern, 2004) and hypothesised by Stern as the moments in which conditions are favourable for therapeutic change. Such an experience may have facilitated patients' experiences of feeling less isolated, 'togetherness' and acceptance. Neuroscientific studies have begun to explore the role of such musical experiences upon neurochemical systems, including notably the production of oxytocin and endogenous opioids which are involved in processes of social bonding and affiliation. A recent review concluded that initial studies of the effects of music upon reward, motivation, pleasure, stress, arousal, immunity and social affiliation are promising, yet limited both by the number of potential confounding variables and methodological weakness of designs (Chanda & Levitin, 2013).

In his in-depth study of individual music therapy for patients with psychosis, Jos De Backer (2008) detailed how within music therapy improvisations, patients with psychosis tended to begin playing 'sensorially' without structure, pulse or relatedness to another, moving to moments of synchronised play and finally musical form, whereby the patient can play autonomously within a clearly defined structure, with a clear beginning and end. De Backer notes that interventions that encourage the development of musical form include taking the bass-line position and descant-line position, allowing silence before the improvisation starts, allowing their play to resonate if the patient's play stops abruptly and offering provocation through counter-rhythms to encourage a change in the style of play. For De Backer, such a process is representative of patients being able to have the psychic space to symbolise, share

experiences with another with freedom and autonomy and know that their contributions have originated from and belong to themselves.

When considering the role of singing, Cross & Morley (2009) draw attention to similarities between musical and verbal interactions. They note that music, unlike language, affords ambiguity whereby meaning is constructed individually in relation to that individual's context, memories and experiences thus allowing for different, yet individually valid interpretations. Wigram and Elefant (2009) suggest that the analogy of music to language is less clear cut and instead argue that music functions as a means of enabling "intimate and creative dialogic encounters between people, linking their motives and emotions" (p.423). The qualitative data suggested a possible association with singing as a means of expression emotions and putting these emotions into words. Notably this was often through an improvised structure, rather than through precomposed music. Whilst singing has received attention from the wider music and health field (Livesey, Morrison, Clift & Camic, 2012) and songwriting from within music therapy (Baker & Wigram, 2005; Rolvsjord, 2005), little attention has been paid to the possible role and function of singing, particularly improvised, within music therapy groups. What appears to be of importance is how improvised singing can emerge from more nonverbal relational encounters within the musical improvisation itself. It may be that the musical structure (in particular, finding a pulse to regulate the interactions between individuals) facilitates this vocal expression of states where words may not be accessible (for example through being unable to explain a particular feeling state verbally, being unable to speak or unable to form cohesive sentences).

In summary, synchrony may facilitate group cohesion through its perceived and shared regulatory marker (pulse). Such a marker enables regulation of interactions which in turn may contribute to a sense of achieving a musically cohesive product, building of relationships and breaking of isolation, feelings of achievement and pleasure, moderation of arousal and improvements in mood. Singing may also be implicated in these processes, and in particular facilitate expression and reflection upon emotions which cannot easily be verbalised.

The systematic review identified practice of increased frequency in a number of different countries, most notably the USA (Silverman, 2007), where the frequency of delivery was as high as five times per week. Comparisons of group processes with this study are made difficult due to the very different models and methods employed, yet it is notable that a feature of the studies employed with this frequency all employed a single session format. Such a difference may be explained by the organisation of the health care systems. Patients on average were admitted for between 3 to 7 days within Silverman's studies, whereas lengths of stay for patients within this study were on average 86 days (ranging between an average of 58 days for

the site once per week, 120 days for twice a week and 78 days for three times per week). Offering group music therapy intensively may provide an alternative to the 'single session' approach proposed by Yalom (1983) and adopted by many music therapists working in acute settings (Arnason, 1993; Davies & Richards, 1998; Shultis, 1999; Silverman & Marcionetti, 2004; Solli, 2003) which may be particularly valuable within the UK NHS context.

8.6 Implications for clinicians, policy and research

8.6.1 Clinical implications

The findings of this thesis suggest that engagement of patients at the earliest opportunity after admission is of particular importance and predictive of a stronger engagement, commitment to the group and a more positive experience of sessions. Use of music techniques to encourage musical group cohesion may assist in achieving greater positive experiences, disclosure and bonding between group members and a stronger commitment to the group. Where patients express discomfort in improvising or being in the room, encouragement of musical expression that is more acceptable to the patient may be important in maintaining engagement.

As group attendance and engagement appear to moderate appraisal and commitment to the group, attention should be paid to maximising and facilitating patient attendance of groups through engagement of patients prior to and after sessions. Similarly the subjective experiences appear most important in predicting the subsequent attendance of sessions. Whilst the questionnaire developed for the purposes of this research was limited in its ceiling effect, it has the potential to be used as an easily implemented means of evaluating patient responses and may provide a means of guiding clinicians in their practice. Most importantly, the findings suggest that the most effective means of achieving such stability of group membership, group cohesion and positive appraisal is through the intensive delivery of group music therapy. The findings suggest that such intensive delivery not only increases access to a greater number of sessions, but that patients make use of and generally perceive greater benefits of this than compared to a single weekly session alone.

8.6.2 Policy implications

Implementation of intensive delivery poses a number of challenges within acute inpatient services. As noted in chapter one, the increasing financial, physical and ethical pressures upon inpatient services to reduce the number of beds and admissions to services and to limit the lengths of stay make an argument for increasing provision of a service, often considered auxiliary, seemingly paradoxical. However, as noted within reports commissioned both by the

Department of Health and mental health charities, patients' experiences whilst in hospital are still considered to be below optimum, with most recent calls made for greater emphasis upon interventions to assist patients in recovering and staying well and for wards to move away from a medical emphasis to considering the wider psychosocial needs of the patient (Healthcare Commission, 2008; MIND, 2011). Within this context, the argument for offering intensive group music therapy is much stronger. The current evidence base suggests it can be effective in treating a range of mental health problems and is particularly powerful in motivating and engaging patients who are difficult to engage in therapy and treatment. In addition, patient experiences both from within this study and other qualitative studies (Ansdell & Meehan, 2010; Solli & Rolvsjord, 2014) suggest that music therapy provides an experience which does not necessarily focus upon deficits and problems (although these may arise and be addressed within the group) and provides patients with a means of self-directed experiential learning through creativity, emotional expression and enhanced awareness of the interactions between themselves and others. Given the short lengths of stay, the findings from the qualitative part of this study suggest that such intensive delivery may engage patients quickly, provide a rapid means of moderating arousal and mood, assist patients in communicating both nonverbally and verbally with others, and build stronger and closer relationships with patients on the ward, which may contribute not only to reducing feelings of isolation and sharing of problems, but also to the ward environment as a whole. It is widely acknowledged that particularly within complex interventions, models need to be adjusted to ensure that they fit within the context of their provision (MRC, 2008). The changing context of inpatient care requires a different model of music therapy if it is to meet the needs of patients who are only present for a short amount of time. The findings from this research have shown that intensive provision of group music therapy is feasible and generally accepted by patients, therefore such a model may now be used as a basis for future research.

8.6.3 Research implications

Having developed a model of processes and outcomes a number of avenues for further research are now possible. The research within this thesis has identified patient appraisal as the strongest predictor of attendance, without which any gains from treatment are not possible. As such, measurement of appraisal may provide a simple means of assessing process variables in future research.

As noted in section 8.4.2, the scale developed for this study was limited by its ceiling effect, low number of items and item response options. Further research to refine this scale for a music therapy population could involve revising the item pool to include more music therapy

specific items based upon the findings of this study. This could include appraisal of the types of musical activity offered, the number of people present, impact of entrances, exits or other disruption and questions to probe their experiences of engagement, emotional expression and social interaction processes. Engagement could include items to assess the extent to which participants felt able to attend, to stay for the duration or not, the extent they felt able to access and play the instruments and the extent to which they felt they had participated in the group activities. Emotional expression could include whether they felt able to express feelings in the music, the types of emotions expressed and the extent they felt able to talk about them afterwards. Social interaction items could include the extent they felt the group was able to play together and listen to one another in the music, whether they got to know others better and whether they felt less socially isolated. Factor analysis could then be used to assess whether these specific areas or other underlying factors are captured by these items. This would enable assessment of more specific aspects of the music therapy experience and possibly capture more negative aspects. Criterion validity could be assessed through comparison with a more general satisfaction questionnaire, such as the Client Satisfaction Questionnaire (Atkinson & Greenfield, 1994); psychotherapy questionnaire, such as the Session Impact Scale (Elliott & Wexler, 1994) or therapeutic group factors questionnaire, such as the Ferrara Group Experiences questionnaire (Caruso et al., 2013).

Whilst potential processes and predictors of outcome have been identified, the intervention will need to be rigorously tested for its effectiveness. Such research requires use of a randomised controlled trial, which, given the particular context of the acute inpatient ward, may be problematic for a number of reasons. Firstly, blinding of patients to the intervention may be difficult unless an active music-making control is used. However, until the exact mechanisms of music therapy are understood, such a control may not be adequately designed and may still have some effect given the wider benefits of socialisation and engagement in music making. Use of a treatment as usual control would provide a means of directly comparing the intervention to usual care, but in this case, the potential of not being allocated to music therapy may cause greater agitation and possible distress, given the mental state of the person admitted. This could be mediated by offering music therapy once the study has ended, or by employing a cluster randomised controlled design whereby wards are randomly allocated to music therapy or no intervention, thus at least preserving equality of access to treatment when on the ward. In either case, an assessment of effectiveness would require much greater resources to implement, and the particular variables within the acute inpatient setting would require much forethought and planning in order to be managed throughout the study. In such cases, a feasibility study is of potential benefit as this provides a means of

piloting planned recruitment and retention rates, assessing the acceptability of the research methodology to both staff and patients and provides simple descriptive statistics including the variability of outcome which will aid the accuracy in calculating the sample size required for a larger trial (Bird et al., 2013; Lancaster et al., 2004).

As a first step for a feasibility study, development of a manual for practice would also be required and would have the further benefit of providing a full rationale and clinical guidance for music therapists. The findings from this research would provide a foundation for further discussion between music therapists, mental health professionals and patients for validation, and a range of training methods could be developed to identify optimal means of putting this into practice. Such a manual may be implemented through publication, provision of short training and presentation of papers and workshops at conferences.

Regarding the measurement of predictors of music therapy, as acknowledged in the limitations, the intricacies of interactions between group members and the therapist during the improvisations themselves were not assessed. Given the potential role of structure in forming musical cohesion, and the lack of significant findings for synchrony as a predictor, different qualities of the musical interaction may need to be assessed instead. Such predictors might include the degree of musical response to a musical contribution by a patient, the instigation of a musical change, the degree to which the musical expression varies and the level to which patients respond musically to one another. Such research might employ existing ratings scales, such as those designed by Pavlicevic (2007) and Bruscia (1987), or might employ analysis of nonverbal behaviour as exhibited through the musical interaction, such as nodding, smiling, gesturing or waiting. Such research may be better performed through experimental laboratory studies where the parameters of the group can be controlled to a greater degree and means of measuring physiological or movement data employed to gain a sense of the overall processes and their importance, and a means of piloting such measurement within a naturalistic clinical setting.

Finally, this research employed means of obtaining first hand patient experiences of group music therapy. Whilst patients described their processes in great detail, it is acknowledged that the candidate may have influenced responses and the interpretation of these. Having obtained a deeper understanding of the processes within acute inpatient group music therapy, further in-depth interviews, focusing upon these three core processes and experiences of singing may help to further explain music therapy's potential effects.

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Appendix A

Publication linked to this thesis

a) Publication

Carr, C., Odell-Miller, H. & Priebe, S. (2013). A systematic review of music therapy practice and outcomes with acute adult psychiatric inpatients. *PLoS ONE 8*, 8: e70252. doi:10.1371/journal.pone.0070252

This publication is the original systematic review linked to chapter 3 of this thesis.

b) Supplementary tables to publication

S1. Review protocol

S2. Search sources and example of search strategy

S3. Data extraction form

S4. Paper characteristics

S5. Coverage of themes

S6. Analysis of client and setting characteristics

S7. Study characteristics of clinical outcome studies

S8. Risk of bias of included clinical outcome studies

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PLOS ONE

A Systematic Review of Music Therapy Practice and Outcomes with Acute Adult Psychiatric In-Patients

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Abstract

Background and Objectives: There is an emerging evidence base for the use of music therapy in the treatment of severe mental illness. Whilst different models of music therapy have been developed in mental health care, none have specifically accounted for the features and context of acute in-patient settings. This review aimed to identify how music therapy is provided for acute adult psychiatric in-patients and what outcomes have been reported.

Review Methods: A systematic review using medical, psychological and music therapy databases. Papers describing music therapy with acute adult psychiatric in-patients were included. Analysis utilised narrative synthesis.

Results: 98 papers were identified, of which 35 reported research findings. Open group work and active music making for nonverbal expression alongside verbal reflection was emphasised. Aims were engagement, communication and interpersonal relationships focusing upon immediate areas of need rather than longer term insight. The short stay, patient diversity and institutional structure influenced delivery and resulted in a focus on single sessions, high session frequency, more therapist direction, flexible use of musical activities, predictable musical structures, and clear realistic goals. Outcome studies suggested effectiveness in addressing a range of symptoms, but were limited by methodological shortcomings and small sample sizes. Studies with significant positive effects all used active musical participation with a degree of structure and were delivered in four or more sessions.

Conclusions: No single clearly defined model exists for music therapy with adults in acute psychiatric in-patient settings, and described models are not conclusive. Greater frequency of therapy, active structured music making with verbal discussion, consistency of contact and boundaries, an emphasis on building a therapeutic relationship and building patient resources may be of particular importance. Further research is required to develop specific music therapy models for this patient group that can be tested in experimental studies.

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Introduction

Acute in-patient care is offered when a patient is in severe crisis to provide a "safe and therapeutic setting for service users in the most acute and vulnerable stage of their illness" [1]. Admissions may be voluntary or through compulsory legal detention. Reasons for admission may be for assessment, treatment of acute symptoms or relapse prevention with the aim for patients to recover to a point where they are able to return to the community. Length of admission varies, however within the United Kingdom (UK), it has reduced to an average of less than 4 weeks [2], and is continuing to decrease.

Whilst the evidence base for music therapy in the treatment of serious mental disorders is growing [3-7], little attention has been paid to the delivery of music therapy in acute in-patient treatment. Research to date suggests many more sessions are required for clinically meaningful effects than may be accessed in hospital [4] and there has been little distinction between interventions offered in acute stages of illness, and those offered long-term [8], [9]. A number of models and methods of music therapy have developed in mental health care, yet specific approaches to account for the acute in-patient context have not been systematically examined [10-14]. Against this background, we conducted a systematic review addressing the following questions:

1. What are the clinical aims and considerations for music therapy with acute adult psychiatric patients in acute hospital settings?
2. How is music therapy provided in these settings in terms of frequency, duration and methods used?
3. What are the findings from outcome studies conducted in these settings?

Methods

A systematic review was conducted utilising narrative synthesis [15-17]. Methods were specified in advance in a protocol [Supporting information S1].

Eligibility Criteria

Definition of intervention. Music therapy is a systematic intervention that uses music experiences and the relationships that develop through these to promote health [18]. Music may be actively produced by patient and therapist (for example, improvisation on musical instruments), or receptive, such as listening to pre-recorded music. The type of musical interaction, level of structure and amount of verbal discussion may vary depending upon the music therapist's approach, client characteristics and diagnosis. Interventions can take the form of group or individual therapy and aims will vary according to the specific needs of the patient.

Criteria. Papers were included if they described music therapy as the main component of treatment with adult in-patients (ages 18+) admitted for treatment of acute symptoms in psychiatric hospitals. Interventions used active and/or receptive musical activities as the primary treatment component in conjunction with the relationships formed through these activities to promote health [18]. Papers were excluded if a) music was not the primary focus of the intervention, for example, dance movement psychotherapy might use music within the intervention, but the focus is upon the physical use of body and movement; b) music was provided without a focus upon relationships, for example use of background music to alter the surrounding environment, music for private listening without therapist involvement, or provision of instruments for patients to access in their own time on the ward; c) the primary aim of the intervention was not to promote health, for example, music lessons with the aim of increasing musical knowledge or skill. Interventions delivered by non-music therapists were included if the intervention met the above criteria.

Papers describing both in-patient and out-patient treatment were included but only features of in-patient work were extracted. Papers focusing upon patients with an organic mental illness (ICD F00-09) were excluded. Data on diagnosis-specific and general symptoms, motivation, attendance, musical engagement, musical preference, social and behavioural changes were extracted. There were no restrictions on study design, publication year or language.

Information Sources and Search Strategy

Databases were identified and searched based on existing guidance and reviews [4], [19], [20]. Relevant journals, library catalogues and conference proceedings were then hand-searched. The full database and journal list can be found in the supporting information [Supporting information S2]. References were inspected for further relevant literature, and a forward citation search performed using ISI Web of Science. The search was repeated after 10 months and completed on 30th March 2012.

The following search terms were employed:

[* musi* or musi* or * sound* or sound* or * acou* or acou* or gim[1] in title, abstract, index terms of REFERENCE] or [music* in interventions of STUDY] and [psychiatr* or mental* or schizophreni* or psychosis or psychotic].

The search term 'gim' was included to find papers relating to Guided Imagery in Music – a specific approach used by music therapists involving receptive listening with the therapist guiding the patient through images evoked.

Study Selection

Detailed citations (title and abstract) were screened by the author (CC) and marked as include; exclude or uncertain. Full papers were retrieved and those marked as uncertain were reviewed against the inclusion criteria. Five authors were contacted for further information. All responded, and three provided references to a further five papers. Searches were managed and saved using Reference Manager (v.12, Thomson Reuters).

Data Extraction

Details of research design and method, country, diagnosis, group/individual, frequency, length, number of sessions offered and attended, duration of therapy, music therapy approaches and techniques, theories informing rationale, client and setting specific features, reported experiences and prospective study results were entered into an excel spreadsheet which was then imported into NVivo (v.18, QSR International) for qualitative analysis [Supporting information S3]. For clinical outcome studies, sample size, mean scores and standard deviations for each time point were extracted along with statistical tests of significance. Twenty-five percent of the included papers were checked for accuracy of inclusion, coding and quality assessment by a second researcher (SO). Third and fourth researchers (SP and HO-M) were available for further discussion and resolution.

Assessment of Risk of Bias

As this review combined clinical, theoretical and research papers, the EPPI "weight of the evidence" (WoE) approach was employed [21], [22]. In this approach, papers are rated not only on their methodological quality (WoEA), but also on the relevance of the study design to the review question (WoEB) and overall relevance to the review question as a whole (WoEC). These ratings are combined to provide an overall "weight of the evidence"(-WoED). For research methodology (WoEA), Downs & Black's [23] checklist was selected for prospective quantitative studies.

For qualitative studies, the "Quality Framework" [24] was used by scoring each area as either present (1) or absent (0). Finally, for practitioner based papers (such as expert opinion or clinical theoretical papers), guidelines from the Social Care Institute for Excellence were employed [25]. Scores were averaged to make an overall score (WoED) and classified as Low (0–0.35), Medium (0.36–0.69) or High (0.7-1). Any papers with a low overall (WoED) or methodological score (WoEA) are reported in the results but were excluded from all analyses. To examine publication and selective reporting bias, study protocols and outcomes reported in the method were compared with published results.

Synthesis

Synthesis used elements and tools from guidance for the narrative synthesis of mixed types of data and followed three stages of 1. Developing a preliminary synthesis, 2. Exploring relationships within and between studies and 3. Assessing the robustness of the synthesis [15-17]. Preliminary synthesis (step 1) for objectives 1 and 2 employed tools of thematic synthesis and vote counting of themes within papers [26]. Papers were coded line by line for each area of extraction and grouped thematically. A thematic framework was tabulated and organized by sub-groups of country, approaches, interventions, research design and outcomes. This was then developed into a conceptual map of 'analytical themes' to synthesize setting-specific features and approaches [26]. Clinical aims, modifications to practice and reasons for this were grouped into similar features. For objective 3, experimental group pre-post

differences and differences between groups post-intervention were converted to standardised mean differences and tabulated.

Relationships between studies (step 2) were explored using tabulation and vote counting. In the thematic analysis, similar features specific to acute inpatient work were grouped together, along with their impact upon therapy and approaches taken to address them. Vote counting was used to check coverage of themes and these were stratified by year of publication, country and length of stay to explore any potential patterns or influences. Experimental results were tabulated and grouped by outcome. Vote counting was used to rank outcomes according to the size and direction of standardized mean differences and statistical significance. Outcomes were then compared by intervention, number of sessions received and study quality.

Robustness of the synthesis product (step 3) was assessed through quality assessment, Doctoral supervision with a music therapist (HO-M) and psychiatrist (SP) and presentations to a mental health research group consisting of Psychologists and Psychiatrists within the authors' institution and to music therapists at an international music therapy conference.

Results

Ninety-eight papers [4], [10], [12], [13], [27-120], were identified for inclusion in the review [PRISMA diagram, Figure 1]. Of these, 57 covered acute work specifically, whilst 41 included acute work as part of a wider discussion of practice in mental health. The majority of papers came from the USA (N = 32) and UK (N = 17) and were clinical theoretical discussions or case studies (N = 63), whilst research and service evaluations comprised 35 of the included papers. Two papers were rated as low quality and therefore excluded from the main thematic analysis [42], [92]. Paper characteristics are shown in the supporting information [Supporting information S4].

Thematic Synthesis

Clinical Aims. Clinical aims were conceptualized as building of interpersonal relationships, self-expression and personal resources [Table S5]. Immediate and short-term aims were most prominent, with priority given to establishing the therapeutic engagement of patients. Initial engagement aims related specifically to making contact and building a therapeutic relationship, active involvement of patients in either activity or therapy (both as in and out-patient) (N = 34) and fostering motivation and volition (N = 22). Immediate aims focused upon the reduction of anxiety, management of emotional arousal, building internal and external organization and providing reality orientation. Once engagement was established, goals then focused upon short term features to address the patient's immediate situation within hospital. These included work on coping skills (N = 21), building musical resources, defences and boundaries (N = 39), prevention of relapse and exploration of issues that led to hospitalization (N = 13). Interpersonal processes focused upon making nonverbal contact with others, building awareness of how one interacts with others, building and improving relationships, teamwork and socialisation. Related to this was communication (N = 50) where aims focused upon encouragement of nonverbal expression, self-expression and verbal communication with others. Emotional aims (N = 47) focused upon management of arousal, self-expression and building awareness and naming of affective states whilst cognitive aims (N = 33) focused upon sustaining and increasing attention and organizing patients' physical actions, behaviours and thoughts. Papers from the USA, UK and Denmark noted setting specific aims of helping patients to deal with hospitalization, such as decreasing hospital and discharge anxiety (N = 24), and changing the atmosphere on the ward, such as improving patient staff integration (N = 16).

Aims relating to symptoms were less frequently mentioned (N = 20). They focused upon reality orientation in psychosis and the reduction of depression and anxiety. Papers varied in opinion regarding the extent to which music therapy should aim to address specific symptoms and problems directly. Three papers stated specifically that this was not a goal of therapy [30], [65], [106]. Both Solli [65] and Leite [106] suggested that complete elimination of symptoms or problems may be unrealistic given the short time-frame of work and therefore suggest building of patient strengths and resources to help them cope with their current situation. Solli & Rolvsjord [110] suggested four features of music therapy that might assist in addressing symptoms of psychosis: motivation, structure, emotional expression and social participation. Nine papers, all informed by Yalom's model of in-patient therapy [122], proposed aims oriented towards supporting and reinforcing strengths and skills rather than longer term insight [13], [49], [76], [79], [107-109], [118], [119]. Mössler et al. [76] linked this to Storz's [112] 'potential orientation' and 'resource orientation' found in other short term psychotherapies. Similarly psychodynamic and psychoanalytically informed approaches focused upon building and strengthening defence structures [52], [65], [119], aiming at "containing action and delineating boundaries" [65] rather than opening up of emotions or deep connection with others.

Characteristics of Delivery. Service characteristics are shown in Table 1, and content and structure of sessions in Table 2. Music therapy was offered to patients with a range of diagnoses. Twenty-six papers focused upon specific diagnoses, usually schizophrenia or psychosis, 13 of which were individual case studies and 8 were for research or service evaluation.

The duration of in-patient stay ranged from 3 days to 75 weeks. Duration of therapy upon acute wards ranged from a single session to 38 weeks. The mode frequency of therapy was twice a week, and ranged from fortnightly to 6 sessions per week. Therapists working in hospitals with a short length of stay tended to offer a greater frequency of sessions, particularly in the USA. Open ward groups were the predominant form of delivery. Smaller semi-open or closed groups were run to meet specific needs or levels of functioning. Group and individual work was also combined (N = 29), whilst other reports focused on individual work only (N = 17) or included outpatient work (N = 22).

Features impacting upon the delivery of music therapy can be found in supporting information S5 and S6 [Supporting information S5] [Supporting information S6]. Setting characteristics included the institutional model and structure, communication with the multi-disciplinary team, ward environment, high patient turnover and shorter time-frame to work. The diversity of patients in terms of symptom severity, functioning levels, reaction to hospitalization, previous therapy experiences, and motivation to enter into therapy similarly impacted upon therapy delivery.

The integration of music therapy within the models and systems of the institutional setting meant prioritization of multidisciplinary team communication, provision of clear information to both patients and staff, and provision of a programme to maximize patient access and staff support [34], [40], [75], [91], [104]. Solli [108] suggests therapists tailor their work at different individual, group, ward and hospital levels. Work may also extend to links with the community through sessions accessible to outpatients eg. [48], [86] or direction of patients to community resources eg. [13], [48], [64], [108], [109], although barriers such as continuity of service and ability to follow-up patients were identified [40], [116].

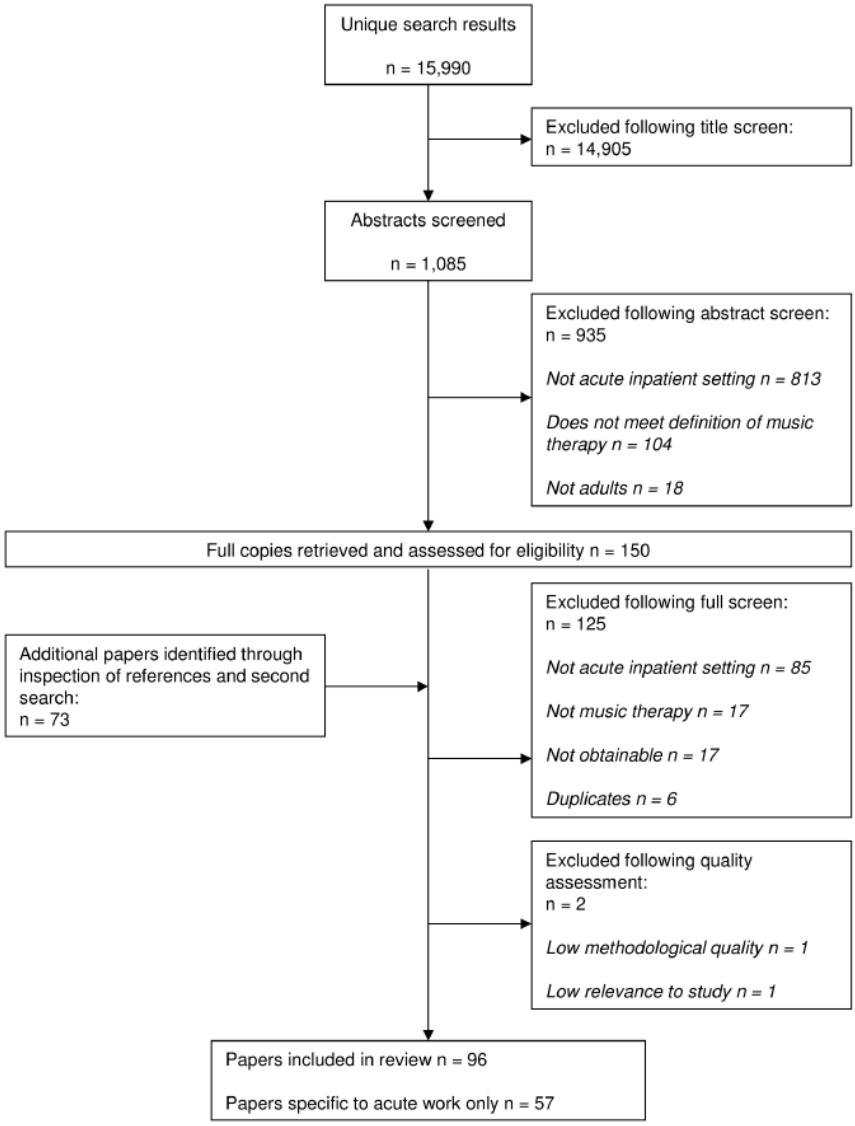

Figure 1. QUORUM Diagram.
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Attendance and engagement were key challenges due to symptom severity, high patient turnover and short lengths of stay. Low attendance was generally experienced negatively by patients [50], [91] and impacted upon the group dynamic [117]. Access to sessions was limited by mental state, external events or by institutional barriers such as the time taken for referral and assessment and ongoing demands upon the patient whilst in hospital [34], [52]. Talwar et al. [116] also observed that uptake of outpatient attendance was rare unless several in-patient sessions were attended.

Engagement of patients in therapy itself was noted as a difficult process either due to anxiety in use of the medium [29], [39], [59], [62], [65], [76], [82], [85], [90], [95], [111], lack of motivation [39], [56], [57], [66], [77], [87] or damage in previous relationships [79]. Attendance for the duration of the session could also be challenging [29], [59], [62]. Coercion to attend was seen by some to have a negative impact, resulting in disruption, focus on authority, or resistance to participating and being involved in the group [27], [38], [59]. Arnason [29] also suggested that some may not feel that they need therapy or may hold ambivalence towards attending as they fear missing visitors,

Table 1. Delivery of music therapy across included papers.

Number of papers (N)	**All**	98
	Acute only	57
Mixed Diagnoses (N)		72
N Sessions attended (range)		1–133
Link to outpatient work (N)		22
Duration in-patient stay (range, weeks)		0.6–75
Duration of therapy (range, weeks)	**All**	0.2–129
	Acute only	0.2–38
Location (N)	On ward	23
	Off ward	11
	Both	8
Type of therapy (N)	Individual	17
	Group	45
	Both individual and group	29
Individual work	Frequency per week	1–6
	Length of session (minutes)	10–60
Group work	Frequency per week	0.5–6
	Length of session (minutes)	30–90
	Group size (range)	3–40
	Co-work with another member of staff	14
Group Format (N)	Open	23
	Semi-open	10
	Semi-closed	3
	Closed	6
	Both open and closed	7

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clinical appointments or wish to return home. Patients may attend in order to 'play the system' to obtain early discharge [87] and it may be that the idea of making music itself may be more motivating for patients than that of psychological change [76], [108]. Cullen [39], noted resistance may take many forms including resistance to choice, personal expression, focus on the here and now, criticism, breaking the mood of the group and intellectualization.

The papers described the therapist as highly active in identifying, informing and establishing relationships with patients both prior to, during and between sessions. Interest and willingness to work with music, level of risk and ability to function in a group were common indication criteria. Acute psychosis was seen as a contraindication by some therapists, whilst others utilized individual sessions or specific targeted groups to engage and work with this patient group. Consistency in therapeutic boundaries of environment, time, place, session structure and behaviour were seen to be of importance but could be difficult to ensure due to the availability of space and fluctuating atmosphere on the ward. When patients were unable to access the group (for example due to ward confinement), therapists would visit the patient, hold sessions on the ward, or provide taped music (either of the group session [62], or for relaxation [29] to maintain consistency of contact. Due to rapid discharge, some offered outpatient work (N = 22), or home visits where this was not possible eg. [78]. Therapists also noted the importance of preparing the groups for change or breaks.

Music therapists described greater participation and direction of the sessions. The level at which patients could influence the group process was determined by therapist approach and level of functioning of patients. Overall, papers described an approach led by patients, but structured by the therapist at the beginning and end of sessions. Opening events were used to orientate new members and closing events used for reflection. Due to the high turnover of patients, 14 papers viewed sessions as standalone sessions [29], [40], [59], [65], [79], [95], [96], [99], [100-103], [106], [107], [117], often influenced by the work of Yalom [121]. A range of music interventions was used. Most emphasised active musical participation, predominantly through structured improvisation and singing/playing pre-composed music. Receptive methods were used either in groups where active music making was deemed too challenging, or for higher functioning patients using a modified form of the Bonny Method of Guided Imagery in Music [31], [52], [72], [73]. Across all forms of music making, musical components of importance were described as having a clear structure, predictability, and tonal and harmonic simplicity. Musical boundaries and ground rules were employed to address behaviour within groups. Verbal reflection was described in all papers and was used to clarify and encourage communication. Discussions focused upon concrete events within the here and now with minimal interpretation.

Stratification by year, duration of stay and country. Year of publication and length of in-patient stay were inspected to explore whether changes to psychiatric services could have influenced the derived themes. Thirty-eight papers published between 1973 and 2011 reported lengths of stay of less than 3 months. Sixteen papers described durations over 3 months. These

Table 2. Session structure and content across included papers.

			N Papers
Direction	**Therapist**	Directive	44
		Non-directive	51
	Session	Therapist led	36
		Patient Led	53
Structure		Opening and closing events	30
		High structure	28
		Flexible structure	40
		Low structure	11
Active techniques	**Improvisation**	Free	50
		Structured	27
		Thematic	19
		Playback of recording	12
	Composing	Music composition	2
		Songwriting	21
	Playing pre-composed music	Ensemble playing	21
		Singing	33
		Rhythmic playing	7
	Didactic/tuition		11
Receptive techniques	**Listening**	Live reception	6
		For relaxation	12
		Music selection & discussion	18
		Structured affective listening	12
		Reminiscence	-
		Guided Imagery in Music	10
	Music based activity	Lyric Analysis	10
		Music collage	3
		Music games	8
Use of other arts modalities		Movement	12
		Other arts forms	17
Use of verbal reflection			63

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were published from 1995 onwards and originated from Belgium (N = 2), Denmark (N = 2), Germany (N = 3), Israel (N = 1), Norway (N = 4), and USA (N = 3). These papers all considered acute cases, but the exact length of the acute phase of treatment was not specified.

All themes covered a range of publication years and countries. Analysis of themes by publication year suggested that symptom specific aims (Aim A6) and patient turnover (Theme S4) might be more recent concerns, although it should be noted that short lengths of stay (Theme S5) covered papers published between 1975-present and there were no papers representing the years 1977–1985. Papers from Germany did not mention patient turnover as a theme of work and a single case study from Israel [94] did not mention any setting specific features of work although this may be due to the paper's focus upon the process of therapy in relation to grief and mourning.

Outcome Studies

Of the 35 research papers identified in this review, 10 evaluated clinical outcomes (Table 3). Of these, 8 used a randomised controlled trial design [37], [74], [84], [100], [102], [103], [116], [118], although only one utilised a reliable randomisation method [116]. Various outcomes were assessed, which were mostly social/interpersonal, mood and symptom domains.

Risk of bias within studies. Six studies were evaluated as medium quality (37%–62.9%) [37], [73], [84], [96], [102], [103] and four as high (70.4%–88.9%) [74], [100], [116], [118] (Table 4). Studies were strong in reporting, but had significant shortcomings in four areas: Information regarding adverse events was reported in only one study [73]; six did not outline explicit exclusion criteria [37], [84], [96], [100], [102], [103]; four did not provide a description of principle confounders [37], [84], [96], [103] and three did not report characteristics of patients lost to follow-up [37], [96], [100]. External validity was difficult to assess as only two studies provided adequate information regarding the source population, selection of patients and the proportion of those invited who agreed [74], [116]. Internal validity was limited by a lack of blinding of subjects, outcome assessors, and concealment of randomisation with only one study adequately addressing these [74].

Risk of bias across studies. In terms of missing studies, one protocol was identified which did not have ensuing published data

Table 3. Summary of clinical outcome studies in acute adult psychiatric settings.

Paper Country	Design and Data Collection	Total number of Participants N (male), diagnosis	NEx	NCt	Mean Age (yrs)	Outcomes	Measures	Summary of intervention: Experimental (E)	Summary of intervention: Control (C)	N sessions (S), frequencyduration	Drop-outs	Bias risk QS%
Cassity, 1976[37] USA	Controlled study Pre-MT, Post-MT (2 wks)	12 (0)	6	6	E: 25 C :27	Group cohesion Peer acceptance IP relations	SQ	Guitar tuition with performance plus 6 hours daily community treatment program	6 hours daily community treatment program	S = 10 Daily over 2wks	2	M 41
		8 Schizophrenia	4	4								
		1 Hyperchondrial neurosis	1	0								
		1 Depressive neurosis	1	0								
		1 Passive Dependent	0	1								
		1 Hysterical neurosis	0	1								
Moe et al., 2000[73] NL	Pre- Post Pre-MT, Post-MT (6 mths)	9(7)	9		29	Global functioning	GAF	Modified Guided Imagery in Music	N/A	S=23-32 1pw over 6 months.	0	M 59
		5 Schizotypal	5									
		3 Schizophrenia	3									
		1 Schizoaffective	1									
Morgan et al., 2011[74] Australia	RCT Pre-MT, Post-MT (2wks), f/u (1 mth)	60* (49 (23) Completed) *Analysis only on completed			E: 35 C: 37	Anxiety, depression, stress Patient ward behaviour Depression Psychiatric symptoms	DASS-21 NOSIE-30 Calgary BPRS	Individual music therapy using improvisation or songwriting.	Sitting with therapist listening to a pre-recorded CD playing relaxing nature sounds.	S=4 2pw over 2 weeks.	11 E:5 C:6	L 85
		25 Schizophrenia	11	14								
		12 Schizoaffective	6	6								
		12 Bipolar	8	4								
Odell-Miller et al., 2006[84] UK	RCT Pre-MT, Mid (3 mths), Post-MT (6mths) PQRST: Monthly.	45 (10) Individual MT= 2 Group MT= 1	nr	nr	37	Anxiety and depression Issues of importance to patient Clinical Outcomes Life skills	HADS PQRST CORE LSP	Arts therapies-Individual AT Group AT Individual DMT Individual MT* Group MT* Plus standard psychiatric support. *MT: improvisation	Standard psychiatric support.	Frequency NR 6 months	20 E:14 C:6	M 59
		9 Schizophrenia	nr	nr								
		6 Bipolar	nr	nr								
		3 Depression	nr	nr								
		3 Residual depression	nr	nr								

Table 3. Cont.

Paper Country	Design and Data Collection	Total number of Participants N (male), diagnosis	NEx	NCt	Mean Age (yrs)	Outcomes	Measures	Summary of intervention: Experimental (E)	Summary of intervention: Control (C)	N sessions (S), frequencyduration	Drop-outs	Bias risk QS%
		2 Schizoaffective	nr	nr								
		1 Dementia	nr	nr								
		1 Eating Disorder	nr	nr								
Silverman & Marcionetti, 2004[96] USA	Pre- Post Pre-MT, Post-MT (single session)	189 Gender: nr			nr	Self-reported Mood; Psychiatric symptoms; Feelings re: hospital; Self-esteem; Self-expression; Knowledge of coping skills; Managing anger; Appraisal of MT	Researcher designed 10pt VAS	5 single interventions: 1. Group drumming 2. Music games 3. Lyric analysis 4. Songwriting 5. Music listening	N/A	S = 1 Single session 2pw over 3 weeks. Each offered 8 times.	0	M 37
		Group drumming	48									
		Music Games	37									
		Lyric Analysis	34									
		Songwriting	35									
		Music Listening	35									
		Schizophrenia	nr									
		Schizoaffective	nr									
		Bipolar	nr									
		Major Depressive Disorder	nr									
		Psychosis	nr									
Silverman, 2009a[100] USA	RCT Post-MT (single session)	105 Gender: nr			E: 37 C: 41	Social Functioning Patient appraisal Satisfaction with life Psycho- educational knowledge Therapist and patient verbalising in group	Researcher designed scales: 1 = worse 7 = better Helpful Enjoyment Comfort SWLS KIRI Observer rated	Opening song: Lyric analysis focusing on relapse prevention and management of mental illness	Scripted verbal psychoeducation with opening activity	S = 1 Single session 2pw over 5 months. 28 of 32 sessions attended. E = 15 sessions C = 13 sessions	App: 1 SWLS 1	L 70
		Bipolar	nr									
		Major Depressive Disorder	nr									
		Substance abuse	nr									
		Schizoaffective	nr									
		Schizophrenia	nr									

Table 3. Cont.

Paper Country	Design and Data Collection	Total number of Participants N (male), diagnosis	NEx	NCt	Mean Age (yrs)	Outcomes	Measures	Summary of intervention: Experimental (E)	Summary of intervention: Control (C)	N sessions (S), frequencyduration	Drop-outs	Bias risk QS%
Silverman, 2011a[102] USA	2 x RCTs Study 1: Pre-MT, 1 month f/u Study 2: Pre-MT, Post-MT (single session)	Study 1: 30 Study 2: 29 Gender: nr			nr	Knowledge of coping skills	PCI	Songwriting, lyric analysis and music games to address psychoeducational objectives such as coping skills, relapse prevention, leisure skills, mental health knowledge.	Psychoeducation objectives such as coping skills, relapse prevention, leisure skills, mental health knowledge without music.	Study 1: S = 3 30mins, 3pw over 4 weeks. Study 2: S = 1 45mins single session.	Study 1:21 E:11 C:10 Study 2: 0	M 63
		Bipolar	nr									
		Major depressive disorder	nr									
		Schizoaffective	nr									
		Substance abuse	nr									
		Schizophrenia	nr									
Silverman, 2011b[103] USA	RCT Post-MT (single session)	89 (32) Mixed diagnoses: nr			E: 37 C: 40	Coping skills Enjoyment Therapist and Patient Working alliance	COPE Researcher designed scale 1 = Low 7 = High. HAQ-II	Opening song to state name and how feeling; Songwriting concerning coping skills using 12-bar blues.	Non-music psychoeducation group focused on coping skills.	S = 1 Single session 1pw over 4 months.	HAQ: 19	M 63
Talwar et al., 2006[116] UK	RCT Pre-MT, Post-MT (3 mths)	81 (60) Schizophrenia	33	48	E35 C:39	Positive and negative symptoms Global Functioning Patient satisfaction	PANSS GAF CSQ	Individual music therapy using improvisation and talking to guide, interpret or enhance musical experience plus routine standard care.	Routine standard care including nursing care and access to occupational, social and other inpatient activities.	S = 12 1pw over 12 weeks.	12 E:5 C:7	L 89
Ulrich et al., 2007[118] Germany	RCT Pre-MT, post-MT	37 (20)	16	11	E:36 C:40	Negative symptoms IP contact: Nurse & Patient rated Quality of life	SANS GT subscales 1, 5 and 6 SPG	Structured group sessions using mainly active music making on rhythm instruments; structured improvisation, playing/singing pre-composed music, verbal reflection plus standard treatment.	Standard treatment.	S = 7-8 1-2 pw over 8 months. Average n sessions received = 7.5 (sd 3.5)	SANS: E:5 C:5 GTN: E:0 C:3 GT-P: E:4 C:3 SPG: E4 C:2	L 82
		27 Schizophrenia	16	11								

Table 3. Cont.

Paper Country	Design and Data Collection	Total number of Participants N (male), diagnosis	NEx	NCt	Mean Age (yrs)	Outcomes	Measures	Summary of intervention: Experimental (E)	Summary of intervention: Control (C)	N sessions (S), frequencyduration	Drop-outs	Bias risk QS%
		4 Schizoaffective	3	1								
		1 Schizotypal	0	1								
		3 Drug induced psychosis	2	1								
		2 Depression with psychosis	0	2								

BPRS- Brief Psychiatric Rating Scale, Calgary- Calgary Interview Guide for Depression, COPE- Brief COPE Inventory, CORE- Clinical Outcomes in Routine Evaluation, CSQ- Client Satisfaction Questionnaire, DASS-21- Depression, Anxiety and Stress Scale, GAF- Global Assessment of Functioning Scale, GT- Gießentest , HADS- Hospital Anxiety and Depression Scale, HAQ-H- Helping Alliance Questionnaire, KIRI- Knowledge of Illness and Resources Inventory, LSP- Life Skills Profile, NOSIE-30- Nurses' Observation Scale for Inpatient Evaluation, PANSS- Positive and Negative Symptoms Scale, PCI- Proactive Coping Inventory, PQRST- Personal Questionnaire Rapid Scaling Technique, SANS- Scale for the Assessment of Negative Symptoms, SPG- Scales for Mental Health, SWLS- Satisfaction with Life Scale, SQ- Sociometric Questionnaire, VAS- Visual Analogue Scale
AT- Art Therapy, DMT- Dance Movement Therapy, MT, Music Therapy, nr- Not reported, N/A- Not applicable, pw- per week, IP relationship- Interpersonal Relationships
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[122]. It was unclear whether this study involved acute in-patients [122]. Only one study protocol was available to examine selective reporting bias [83], of which all outcomes were reported in the final publication [84]. One study [103] reported outcomes not explicitly outlined in the method whilst Cassity [37] did not provide tabulated data for measures of peer acceptance and interpersonal relationships.

Clinical Outcomes. Comparisons of clinical outcomes are shown in Table 5. Direction and size of pre- post- change in the intervention group, post intervention differences between groups and statistical significance were examined to compare the strength of evidence between studies. Reductions in positive and negative symptoms [74], [116], [118], psychiatric symptoms [74] and increased interpersonal functioning [118] were significantly more favourable in patients receiving music therapy compared to controls, although the size of the effects were small. All used active music-making methods with a degree of structure and delivered between 4–12 sessions over 2 weeks to 3 months. These studies were of a higher methodological quality than most of the studies in this review. However, studies were limited by lack of blinding of interviewers, small sample sizes (N = 12–81), and few used an active control.

Vote count coding key: Positive outcomes suggesting a trend towards the intervention but not significant when compared to controls included patient behaviour on the ward (NOSIE-30), patient experienced anxiety and stress (DASS-21) [74], global functioning (GAF), satisfaction with music therapy (CSQ) [116] and quality of life (SPG) [118]. Three randomised controlled trials by Silverman [99], [102], [103] examined the effect of psycho-educational music therapy interventions upon psychoeducational knowledge, coping skills, satisfaction with life and appraisal of music therapy after a single session. Sessions were based on a psychoeducational framework with the aim to educate patients with knowledge and skills to manage their mental illness. Interventions included lyric analysis, songwriting and music games, with themes of relapse prevention, management of mental illness, active coping strategies for common problems faced, leisure skills and improving mental health knowledge. The active control followed the same psychoeducational script but did not employ music activities. Patients demonstrated greater psychoeducational knowledge in the music therapy group compared to the control in all three studies but these were not statistically significant. Effects may have been limited by assessment of a single session and use of an active control.

Outcomes for depression were mixed. Morgan et al. [74] found treatment group BPRS scores significantly decreased compared to the control. However, reduction was not significant compared to the control when assessed on the Calgary Interview Guide for Depression whereas scores on the DASS-21 suggested a trend towards the control. Other outcomes with a trend towards the control group were irritability and interaction subscales of the NOSIE-30, [74] and ratings of comfort after a single session of psychoeducational lyric analysis [99].

Odell-Miller et al's study [84] on the effectiveness of arts therapies (music, dance movement and art therapy) compared 10 patients receiving an arts therapy intervention, to 15 patients receiving treatment as usual at three time points. Patients in the treatment group reduced in anxiety and depression but this was not significant and the group difference favoured the control. Individual global distress reduced in both treatment and control, but increased in the final assessment for the treatment group. Life skills increased for the control, but decreased in the treatment group. Despite its rigorous design, the authors noted the problems

inherent in assessing a range of interventions, diagnoses, and small number of participants.

Subjective outcomes. Five papers sought patient evaluations of music therapy. Reker [90], Heaney [60] and Dye [44] used questionnaire-based surveys. Silverman [101] combined a questionnaire and interview to ascertain patient perceptions of different interventions, whilst Ansdell & Meehan [28] conducted in-depth idiographic interviews.

Reker [90] designed a 25 item questionnaire for patients to rate their experience of active music therapy utilising structured music making, and 30 patients completed the questionnaire. Patients rated music therapy positively, particularly in terms of enjoyment, safety relaxation and improvement in mood. Patients noted that it was anxiety provoking to play, although only 5 respondents partly felt that the music made them uneasy or frightened. Patients found it difficult to speak about the music although all rated that it was important to speak about the music after playing. Dye [44] found patients rated both a singing and listening group highly, with slightly higher ratings for the singing group. Out of 39 responses, all but one were able to suggest a song that was meaningful for them during the session. Dye notes the consensus between individuals for favoured songs in the group, although personal reasons given as to why these songs were favoured varied between individuals. In his comparison of music therapy to other group therapies, Heaney [60] examined ratings from 27 patients. He found music therapy consistently gained the most positive appraisals, and was significantly more pleasurable than other groups, whilst there were no significant differences in importance and success ratings. Heaney found a relationship approaching significance for age, but no significant relationships between overall ratings and length of admission or previous hospitalisation.

When assessing patient perceptions of 5 psychoeducational interventions (individual game, team game, singalong session, lyric analysis, songwriting), Silverman [101] found patients rated the team game as most enjoyable and individual games least. However, the individual game had highest helpfulness ratings and lyric analysis the lowest. Whilst patients could recall events in the group, they were not always able to state what the purpose of the group had been. All stated they would attend another session.

Ansdell and Meehan's study [28] revealed in greater depth the experiences of patients who had significantly engaged in music therapy for a minimum of 10 individual sessions. The study met all but two of the qualitative framework criteria (attention to (12c) and explanation of (14d) negative cases, outliers or exceptions) [24]. Nine themes were defined: 1. Benefit is broader than symptomatic change; 2. Music therapy often involves reconnecting with a previous relationship to music; 3. Music therapy elicits and works with patients' "music-health-illness" narrative; 4. Qualities of 'musical' and 'therapeutic' are often experienced as a unity; 5. Aspects of musical process in music therapy are experienced as distinctive; 6. The therapist is experienced as an equal 'musical companion'; 7. Music therapy is experienced as distinctive in relation to other therapies; 8. Overall benefits are characterised as compensatory or alleviatory in relation to illness experiences; 9. A key benefit of music therapy is its ability to mobilise "music's hope". They suggest that the "music-health-illness" narrative forms 3 parts whereby patients have a previous positive relationship and history with music, which is lost when becoming ill, leading to loss of music as a helping resource. The authors suggest that the accounts indicate music therapy enables this relationship to be re-established, thus providing patients with a means of seeking help from music themselves again.

Discussion

This review has identified a wide variety of ways in which music therapists work within acute adult psychiatric settings. Therapists respond to the challenges of the setting and system, as well as the diverse and individual needs of the patients. Initial engagement of patients with therapy is a core aim and emphasis is placed upon immediate presenting emotional, interpersonal and behavioural issues. Whilst papers describing clinical practice have some shared features which may be of importance for work in these settings, it is clear that as yet, no clearly defined model exists to accommodate the challenges of providing music therapy in acute adult mental health care.

Patient and Setting Challenges

The short period of in-patient stay has been a challenge for music therapists working to models that assume a longer period of work. Combined with the severity and range of symptoms, attendance and engagement were of particular concern. Adaptations to address this include increased session frequency, viewing sessions as standalone, targeted groups for particular function levels or needs and service diversification to incorporate the wider hospital, outpatients and community.

There is mixed evidence concerning attendance and engagement of patients in music therapy. The outcome studies suggest that adherence to music therapy is high, although this is contrasted with the difficulties in managing rapid patient turnover and fostering initial engagement. Despite the acknowledged difficulties in fostering group processes due to high turnover, few papers have fully examined the impact of this upon engagement in therapy. The early stages of group development described by Hara [59], Jensen [64] and Hannibal [57] fit with those described within acute verbal psychotherapy groups [123] and the early stages of wider music therapy mental health groups [124]. Further research into the impact of group processes and music therapy techniques upon engagement in music therapy is therefore required.

Clinical Aims

Aims focus upon fostering therapeutic engagement with patients, building interpersonal relationships and immediate effects such as reduction in arousal or relaxation, which were suggested to be of immediate benefit both to individuals, and the ward environment as a whole. Patients within acute settings were noted to be in crises, and interventions therefore focused upon management of symptoms and interpersonal relationships in the 'here and now' rather than long term insight or understanding.

The lack of clear indication criteria and diagnostic focus is problematic for therapists working in acute settings as evidenced by the difficulties in communicating the value and purpose of music therapy to the multi-disciplinary team. This has been a wider issue for some time in music therapy mental health work [125-127]. The findings suggest that the patient's interest and willingness to work with music, level of risk and ability to function in a group were core criteria. Music therapists may need to articulate their aims and criteria for referral with an emphasis upon immediate and short term benefits, along with ways in which patients might access and benefit from medium and longer term services.

Despite the heterogenous delivery of music therapy, different processes may be apparent for distinct diagnoses. Within this review, de Backer [10], Jensen [64] and Solli & Rolvsjord [110] suggest distinct ways of working with acute psychosis, which was seen by some other authors as a contraindication for wider mixed groups. In the wider mental health literature, distinct patterns and

Table 4. Risk of bias of included clinical outcome studies.

Study:		Cassity 1976 [57]	Odell-Miller et al 2006[64]	Silverman & Marcionetti 2004[66]	Silverman 2009a[100]	Silverman 2011a[102]	Silverman 2011b[103]	Talwar et al. 2006[116]	Ulrich et al 2007[118]	Moe et al 2000[73]	Morgan, et al 2011[74]
Experimental Study Design		Controlled study	RCT	Pre-Post	Controlled study	Pilot RCT	2 Pilot RCTs	RCT	RCT	Pre-Post	RCT
Score/27 (%) (Downs & Black, 1998)		11 (40.7)	16 (59.3%)	10 (37%)	19 (70.4%)	17 (62.9%)	17 (62.9%)	24 (88.9%)	22 (81.5%)	16 (59.3%)	23 (85.2%)
Reporting	Hypothesis/ aim/objective	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clear description of-	Main outcomes to be measured	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Patient characteristics	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	Yes	Yes	Yes	Yes
	Intervention	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Distribution of principal confounders	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
	Main findings	No data for subject rank	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Estimates of random variability in data for main outcomes	Not reported	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	All adverse events	No	No	No	No	No	No	No	No	Yes	No
	Characteristics of patients lost to followup	Not reported	Yes	Not reported	Not reported	Yes	Yes	Yes	Yes	Yes	Yes
	Actual probability values reported	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Not reported	Yes
External Validity	Subjects approached representative of entire population	Unable to determine	Yes	Unable to determine	Yes	Unable to determine	Yes	Yes	Unable to determine	Unable to determine	Yes
	Participants representative of entire population	Unable to determine	Unable to determine	Unable to determine	Unable to determine	Unable to determine	Unable to determine	Yes	Unable to determine	Unable to determine	Yes
	Staff and facilities representative of treatment usually received	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Internal validity	Subjects blinded to intervention	No	No	No	No	No	No	No	No	No	Yes
(bias)	Measurers of main outcomes blinded	No	Yes	No	No	No	No	Yes	Yes	No	Yes
	Unplanned analyses reported	No unplanned analyses	Yes	No unplanned analyses	Yes	No unplanned analyses	Yes	No unplanned analyses	No unplanned analyses	No unplanned analyses	No unplanned analyses

Table 4. Cont.

Study:		Cassity 1976 [37]	Odell-Miller et al 2006 [84]	Silverman & Marcionetti 2004 [96]	Silverman 2009a [100]	Silverman 2011a [102]	Silverman 2011b [103]	Talwar et al. 2006 [116]	Ulrich et al 2007 [118]	Moe et al 2000 [73]	Morgan, et al 2011 [74]
	Adjustment of different lengths of follow-up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Yes	Same time period for follow up	Same time period for follow up	Same time period for follow up
	Appropriate statistical tests to assess main outcomes	Yes	Yes	Unable to determine	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Reliable compliance with intervention	Unable to determine	Yes	Yes	Yes	Unable to determine	Yes	Yes	Yes	Yes	Unable to determine
	Accurate outcome measures (valid and reliable)	Yes	Yes	Yes	Yes	Yes	Main outcome valid and reliable. Additional measures not outlined in method.	Yes	Yes	Yes	Yes
Internal validity (confounds)	Recruitment of intervention and control from same population	Yes	Yes	No control group	Yes	Yes	Yes	Yes	Yes	No control group	Yes
	Recruitment over same period of time for control and intervention	Yes	Yes	No control group	Yes	Yes	Yes	Yes	Yes	No control group	No- quasi random by month
	Randomisation to groups	Unable to determine	No- alternate allocation	No	Yes	No- quasi random by intervention	Study 1- unable to determine; Study 2- randomised by session	Yes- block randomised stratified for site, derived from computer program	Yes- randomised to intervention or control by throw of dice	Not randomised	No- quasi random: 1 month intervention then 1 month control
	Concealment of randomisation	Unable to determine	No	Not randomised	No	No	No	Concealed from staff, not patients	Concealed from staff, not patients	Not randomised	Yes
	Adjustment for confounding	No	No	No	Yes	No statistically significant differences between groups regarding number of times in hospital or age.	Yes	Yes	Yes	No	No significant differences between groups
	Loss of patients to follow up taken into account	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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Table 5. Comparison of outcomes (standardised mean difference) across studies and vote count.

Outcome	Study	Measure	Session content	Technique	N sess	SMD Pr-Po	SMD E vs C	E	G	S	Bias risk
Social and interpersonal outcomes											
Interpersonal contact- patient rated	Ulrich et al 2007	GT Patient	Active	Improvisation, pre-composed	7.5	0.41	0.64*	+	+	+	L
Interpersonal contact- nurse rated	Ulrich et al 2007	GT Nurse	Active	Improvisation, pre-composed	7.5	0.18	0.25	+	+		L
Social Functioning	Silverman 2009a	RD Scale	Receptive	Lyric analysis	1	na	0.09	+	+		L
Interaction	Morgan et al 2011	NOSIE Interaction	Active	Improvisation, songwriting	4	0.5	−2.30	+	-		L
Working alliance- therapist	Silverman 2011b	HAQ-II Therapist	Active	Songwriting	1	na	1.09*	+	+	+	M
Working alliance- patient	Silverman 2011b	HAQ-II Patient	Active	Songwriting	1	na	0.31	+	+		M
Dichotomous Social and interpersonal											
Group cohesion	Cassity 1976	SQ	Active	Didactic	10	1.12	0.98	+	+		M
Peer Acceptance	Cassity 1976	SQ	Active	Didactic	10	0.76	0.61	+	+		M
Interpersonal relations	Cassity 1976	SQ	Active	Didactic	10	nr	nr				M
Global functioning											
	Talwar et al 2006	GAF	Active	Improvisation, verbal reflection	12	0.43	0.13	+	+		L
	Moe et al 2000	GAF	Receptive	Modified GIM	28	1.22*	na	+		+	M
Increased quality of life											
	Ulrich et al 2007	SPG	Active	Improvisation, pre-composed	7.5	0.24	0.05	+	+		L
Global distress											
	Odell-Miller 2006	CORE	Active	Improvisation	nr	0.09	0.02	-	-		M
General psychiatric symptoms											
	Morgan et al 2011	BPRS Total	Active	Improvisation, songwriting	4	−1.07	−0.16*	+	+	+	L
	Talwar et al 2006	PANSS General	Active	Improvisation, verbal reflection	12	−0.71	−0.32	+	+		L
Negative symptoms											
	Morgan et al 2011	BPRS -ve symptoms	Active	Improvisation, songwriting	4	−1.43	−0.03*	+	+	+	L
	Ulrich et al 2007	SANS Total	Active	Improvisation, pre-composed	7.5	−0.53	−0.42*	+	+	+	L
	Talwar et al 2006	PANSS -ve symptoms	Active	Improvisation, verbal reflection	12	−0.56	−0.30	+	+		L
Positive symptoms											
	Morgan et al 2011	BPRS+ve symptoms	Active	Improvisation, songwriting	4	−1.08	−0.24*	+	+	+	L
	Morgan et al 2011	NOSIE Psychosis	Active	Improvisation, songwriting	4	−0.67	−0.10	+	+		L
	Talwar et al 2006	PANSS+ve symptoms	Active	Improvisation, verbal reflection	12	−0.67	−0.28	+	+		L
Positive and negative symptoms											
	Talwar et al 2006	PANSS Total	Active	Improvisation, verbal reflection	12	−0.66	−0.26*	+	+	+	L
Depression											
	Morgan et al 2011	BPRS Depression	Active	Improvisation, songwriting	4	−1.06	−0.05*	+	+	+	L
	Morgan et al 2011	Calgary	Active	Improvisation, songwriting	4	−0.63	−0.04	+	+		L
	Morgan et al 2011	DASS-21	Active	Improvisation, songwriting	4	−0.51	0.02	+	–		L

Table 5. Cont.

Outcome	Study	Measure	Session content	Technique	N sess	SMD Pr-Po	SMD E vs C	E G	S	Bias risk
Anxiety and depression										
	Odell-Miller 2006	HADS	Active	Improvisation	nr	−0.12	0.15	+ −		M
Dissociation										
	Morgan et al 2011	BPRS Dissociation	Active	Improvisation, songwriting	4	−0.73	−0.12*	+ +	+	L
Mania										
	Morgan et al 2011	BPRS Mania	Active	Improvisation, songwriting	4	−1.2	−0.13*	+ +	+	L
Anxiety										
	Morgan et al 2011	DASS-21	Active	Improvisation, songwriting	4	−0.83	−0.10	+ +		L
Stress										
	Morgan et al 2011	DASS-21	Active	Improvisation, songwriting	4	−0.71	−0.22	+ +		L
Irritability										
	Morgan et al 2011	NOSIE Irritability	Active	Improvisation, songwriting	4	−0.5	0.13	+ −		L
Ward behaviour										
	Morgan et al 2011	NOSIE Total	Active	Improvisation, songwriting	4	0.46	−0.08	+ +		L
Life skills										
	Odell-Miller 2006	LSP	Active	Improvisation	nr	−0.3	−0.63	− −		M
Psychoeducational knowledge										
	Silverman 2009a	KIRI	Receptive	Lyric analysis	1	na	0.08	+		L
Coping skills										
	Silverman 2011a	Study 1: PCI	Mixed	Songwriting, lyric analysis, music games	3	na	1.52	+		M
	Silverman 2011a	Study 2: PCI	Mixed	Songwriting, lyric analysis, music games	1	na	0.12	+		M
	Silverman 2011b	COPE	Active	Songwriting	1	na	0.03	+		M
Appraisal and satisfaction										
Increased satisfaction with services	Talwar et al 2006	CSQ	Active	Improvisation, verbal reflection	12	0.34	0.33	+ +		L
Increased enjoyment	Silverman 2011b	RD Scale	Active	Songwriting	1	na	0.09	+		M
Increased enjoyment	Silverman 2009a	RD Scale	Receptive	Lyric analysis	1	na	0.15	+		L
Increased helpfulness	Silverman 2009a	RD Scale	Receptive	Lyric analysis	1	na	0.09	+		L
Increased satisfaction with life	Silverman 2009a	SWLS	Receptive	Lyric analysis	1	na	0.24	+		L
Increased comfort	Silverman 2009a	RD Scale	Receptive	Lyric analysis	1	na	−0.08	−		L
Vote count coding key										

Experimental group pre-post SMD E	SMD Group difference post intervention G Outcome is statistically significant S	Interpretation
+	+ +	Significantly favours intervention
+	+	Trend towards intervention
+	−	Improvement in experimental group, trend towards control

Table 5. Cont.

Experimental group pre-post SMD E	SMD Group difference post intervention G Outcome is statistically significant S	Interpretation
–	–	Deterioration in experimental group, trend towards control
–	–	Significantly favours control

+Direction of experimental pre-post SMD indicates improvement/group difference SMD favours intervention/significantly favours intervention.
– Direction of experimental pre-post SMD indicates deterioration/group difference SMD favours control/significantly favours control.
*Statistically significant ($p<.05$).
N sess- Number of sessions received, SMD- Standardised mean difference, Count- Vote count, nr- not reported, na- not applicable.
BPRS- Brief Psychiatric Rating Scale, Calgary- Calgary Interview Guide for Depression, COPE- Brief COPE Inventory, CORE- Clinical Outcomes in Routine Evaluation, CSQ- Client Satisfaction Questionnaire, DASS-21- Depression, Anxiety and Stress Scale, GAF- Global Assessment of Functioning Scale, HADS- Hospital Anxiety and Depression Scale, HAQ-II- Helping Alliance Questionnaire, KIRI- Knowledge of Illness and Resources Inventory, LSP- Life Skills Profile, NOSIE- Nurses' Observation Scale for Inpatient Evaluation, PANSS- Positive and Negative Symptoms Scale, PCI- Proactive Coping Inventory, RD- Researcher designed, SANS- Scale for the Assessment of Negative Symptoms, SMD- Standardised mean difference, SPG- Scales for Mental Health, SQ- Social Questionnaire, SWLS- Satisfaction with Life Scale.
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processes within musical co-improvisation have been identified in depression and schizophrenia but this does not appear to have been explored any further within acute clinical practice [128]. In contrast, those utilizing resource-oriented principles, use methods to support and strengthen patient engagement in music and argue against a purely diagnostic focus.

Diversity of Practice

Approaches to music therapy were diverse, influenced by training and predominating models of their country. Previous reviews have also noted the diversity of practice and approaches in mental health [4], [6], [7], [9]. Music therapy approaches often conflicted with the changing institutional models and structure. For example, within the UK, two early music therapists, Fenwick and Priestley [48], [86], describe services that offered music therapy to the whole hospital as an institution, such as open ensembles for staff, in- and outpatients. Later work by Grandison [54] and Odell-Miller [12], [82] details the challenges faced as hospitals moved from therapeutic communities, conducive to group work models of music therapy on acute admission wards, to shorter term individually delivered medical models. A similar situation is seen in the work of Silverman in the USA, whereby approaches were adapted to fit with the institution's psycho-educational and short term model.

Later papers in this review suggest that patient and setting specific models are beginning to evolve. Papers from the 1980s onwards are influenced by Yalom's application of group psycho-therapy to in-patient settings [121], [129], whilst therapists working within psychoanalytic and psychodynamic approaches have adapted their models to focus more upon the immediate interpersonal processes (influenced by the work of Daniel Stern [130], [131]) than upon interpretation of transference dynamics. In Norway, the concept of resource orientation in mental health care is also developing [13], [76], [107-110].

Outcome Studies

Few studies have rigorously evaluated the effectiveness of music therapy specifically for acute psychiatric in-patients. The studies in this review provide some evidence suggesting that active music therapy can be effective in reducing psychiatric, positive and negative symptoms and improving interpersonal interaction although the length of time evaluated in these studies is generally much greater than typical lengths of in-patient stay. Studies of shorter durations suggest minor improvements, but these are not sustained at follow-up. Morgan et al. [74] note that the short time frame of therapy (2 weeks) might explain the lack of significant findings in their study. Similarly, studies of the immediate effects of psychoeducational music therapy [99], [102], [103] suggest minor improvements in a range of areas including coping skills, but these were not significant after 3 months. These findings are in line with the suggested dose-effect response [4] yet it remains unclear as to what role the immediate effects of primarily active music making and frequency of sessions may have upon processes and outcomes for this patient group.

Structured active music production, such as structured improvisation or active playing of pre-composed music plays a dominant role in music therapy for this patient group and was supported in the findings from outcome studies. Whilst active techniques were dominant across all countries, 11 papers observed that playing music actively could provoke high anxiety in patients. Therapists attempted to alleviate this by providing information and reassurance prior to the group, structured activities, and music familiar to patients. A recent study of music therapy techniques as predictors of change in individual work with adults with severe mental health

problems and low motivation [132] found that use of music reproduction techniques, such as playing precomposed music or tuition of basic musical skills was associated with gains in relational competencies. The authors suggested that the pre-formed musical structure in music reproduction (ie. actively playing pre-composed music) can support patients who find it difficult to express or create their own music. Similarly, in her study of art and dance movement therapy, Dokter [133] found that young adults in a longer term therapeutic community setting valued active participation, but therapists had to carefully manage structure, discussions and arts activities to counter initial anxiety, meet individual needs and the stage of the group. It may be that use of familiar musical structures and styles assists in alleviating anxiety and builds the confidence to nonverbally further explore emotions and relationships in music [13], [108], [132].

If both engagement and clinical improvement are dependent on 20 or more sessions [4], [58] one might still question what value music therapy in acute settings may have in the treatment process. Whilst some papers cited the importance of fostering therapeutic engagement for longer term work in the community, this review identified difficulties in the linkup between in-patient and outpatient services, and the lack of continuation when outpatient work was offered. It is unclear to what extent patients are able to access further therapy after discharge and what impact this might have upon outcomes. Small benefits can be seen after a single session, but do not reach statistical significance. However, studies which incorporated patient feedback provided evidence of positive appraisals of music therapy with emphasis on improvement in mood, relationships and fostering of motivation.

Implications for Future Research

This review has identified clinical practice spanning 40 years across a range of countries in acute in-patient settings. Despite this large body of work, very little research exists to qualify the evidence base for practice in acute settings. One possible model of music therapy may be to offer a high intensity of sessions. However, whilst evidence suggests a greater number of sessions is required to achieve clinically significant benefits, no research has yet assessed whether increasing the frequency of therapy is accepted by patients. An alternative or adjunctive model may be to focus on brief interventions lasting only a few or even a single session although this would require consideration of clinical aims and outcomes that might be possible to achieve in such a short amount of time. Future research needs to disentangle the processes of music therapy for this population in order to better define indications and the types of outcomes that may be achieved. Development of models with consistent aims, theoretical concept and delivery is required if feasibility and effectiveness of music therapy within these settings is to be tested in systematic research including randomized controlled trials. Such developments would assist in defining the role, purpose and effective clinical practice of music therapy in acute in-patient settings.

Strengths and Limitations

To our knowledge this is the first systematic review of clinical practice of music therapy in acute adult psychiatry. The review employed a rigorous methodology, with a wide search strategy and systematic quality appraisal. The range of identified papers was large and the use of thematic synthesis ensured that the analysis was fully grounded in the data presented. Core themes within the analytic framework of clinical considerations and aims are represented internationally, indicating robustness of the synthesis, although the manner in which therapists adapted practice varied according to approach and country.

Despite the rigorous methodology, there are a number of limitations. Whilst the scope was wide to detect variations in clinical practice, the small number of research papers and inclusion of low quality research designs means that little can be concluded regarding effectiveness. Meekams & Daniels [134] note the challenges in combining quantitative and qualitative data within thematic synthesis. The majority of papers identified in this review came from secondary searches performed after searching of electronic databases. The review only identified four studies that would meet more rigorous criteria for meta-analysis of clinical outcomes, each of which employed diverse music therapy methods, and outcome measures. Within an acute in-patient setting, evaluation of music therapy as only one part of treatment is problematic given that patients are treated within the whole institution and are seen to improve rapidly to a point where they can be discharged. Given the extremely wide nature of the review, the full depth of papers, particularly within case studies is not covered. Papers from the Far East and Asia were under-represented with 3 of the unobtainable papers originating from these countries, and this review may have missed other important and potentially different ways of working.

Conclusion

The review suggests that currently there is no agreed, well researched and evidenced, clearly defined model of music therapy that accommodates the challenges of acute adult psychiatric in-patient settings. Changes to service setup have resulted in a need to modify existing models of music therapy to focus upon immediate and short term aims. Features of music therapy which may play an important role for this context include the frequency of therapy, active structured music making with verbal discussion, consistency of contact and boundaries, an emphasis on building a therapeutic relationship and building patient resources. Further research is now needed to develop clear models and aims, which take into account the acute in-patient context and provide information on the varying processes and outcomes. Such a model would provide greater clarity on the role and purpose of music therapy for acute adult in-patients and would provide a better defined framework of practice which can be tested in clinical trials.

Supporting Information

Information S1 Review protocol.
(DOC)

Information S2 Search sources and example of search strategy.
(DOCX)

Information S3 Data extraction form.
(DOC)

Information S4 Paper characteristics.
(DOCX)

Information S5 Coverage of themes.
(DOCX)

Information S6 Analysis of client and setting characteristics.
(DOCX)

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Author Contributions

Conceived and designed the experiments: CEC HOM SP. Performed the experiments: CEC. Analyzed the data: CEC HOM SP. Wrote the paper: CEC HOM SP.

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Supporting Information 1. Review Protocol

Systematic Review of Music Therapy for Inpatients in Acute Psychiatric Hospitals

Background:

Music therapy as an intervention in acute psychiatric hospitals:

Music therapy has been routinely offered within UK healthcare over the last 50 years. Recent clinical guidance suggests that the arts therapies are currently the only intervention to demonstrate effectiveness in reducing negative symptoms of schizophrenia (NCCMH, 2010). There is evidence to suggest that music therapy is helpful in reducing symptoms of schizophrenia in the short to medium term, with particular impact upon negative symptoms.

Music therapy is an intervention which uses different forms of music making within the context of a therapeutic relationship. Music may be actively produced, most commonly through improvisation; or receptive, for example, listening to pre-recorded music brought by the patient. The type of musical interaction, level of structure and amount of verbal discussion may vary depending upon the music therapist's approach, client characteristics and diagnosis. Models of music therapy vary in theoretical underpinning and approaches, but all place a relationship between therapist and client at the heart of the intervention. This is in contrast to studies of music interventions, where music is used for its specific effects. Interventions can take the form of group or individual therapy and aims will vary according to the specific needs of the patient.

Current schizophrenia guidance for arts therapies interventions recommends group therapy as a first-line treatment with creative activities being unstructured and led by the patient (NCCMH,2010). Aims are broadly outlined as:

1. To enable different experiences of oneself and to develop new ways of relating to others
2. To help self-expression and organisation of experience into a satisfying aesthetic form
3. To help people accept and understand feelings arising from the creative process at a pace suited to the person

(NCCMH, 2010; p.370)

However, the extent to which arts therapists work within these guidelines and variance across settings is unclear. Two studies have found that methods of treatment for adults with mental disorders vary considerably and a there is a lack of consistent evidence to support or contraindicate a particular approach or technique (Drieschner & Pioch, 2002; Odell-Miller, 2007). However, there does seem to be strong agreement between music therapists for the use of supportive psychotherapeutic approaches in work with psychotic disorders, with less-structured techniques of free improvisation with talking and use of pre-composed songs featuring most prominently (Drieschner & Pioch, 2002; Odell-Miller, 2007).

Effectiveness of music therapy in the treatment of severe mental illness

Two systematic reviews of effectiveness of music and music therapy for schizophrenia and related disorders have been conducted to date (Gold, Dahle, Heldal & Wigram, 2006; Silverman, 2003). Gold et al. (2006), found that music therapy was superior to standard care alone for global state, general mental state, negative symptoms and social functioning. However, effects were not consistent across studies and were dependent on the number of music therapy sessions received. Studies utilising music therapy interventions were included, and studies using only music listening were excluded. The authors defined the activities of music therapy based upon Drieschner and Pioch (2001) as:

1. Active versus receptive
2. Level of structure
3. Focus of therapeutic attention

All three variables varied across the studies included in the review.

Silverman's meta-analysis reviewed any quantitative research that evaluated 'the influence of music upon the symptoms of psychosis'. Inclusion criteria were more open than that of Gold et al. (2006) and included any type of music intervention, including background music and music listening. Aimed functions of the music intervention (for example, to decrease auditory hallucinations or increase appropriate behaviours) were included as part of the analysis. Nineteen quantitative studies were identified, although only one study utilised music therapy as commonly practised within the UK. The meta-analysis found differences in results from patients with catatonic symptoms (defined as 'involving participation, cooperation, and interaction') compared to general and cognitive symptoms. No differences in effectiveness were found between music therapy techniques and passive listening. Moreover, effectiveness was significant across all aimed functions of music. No differences were found between long-term or short-term institutions leading the author to conclude that music might therefore have an 'immediate effect on all types of patients' (p.37). Both analyses demonstrated effectiveness across all music therapy interventions, yet it is unclear to what extent the type of intervention (eg. Active/receptive; level of structure) impacts upon effectiveness.

More recently, Odell-Miller conducted a systematic review of music therapy techniques for specific diagnoses for her PhD thesis (2007) and Gold, Solli, Krüger & Lie have performed a meta-analysis of music therapy for people with serious mental disorders including psychosis (2009). Whilst Odell-Miller provides the first comprehensive overview of techniques utilised for specific diagnoses, it is clear that to date, there is no overall consensus as to which specific music therapy interventions might be most helpful or harmful for patients with psychosis. More specifically, there is little distinction between interventions offered for adults in acute stages of illness (most often as inpatients), and those offered long-term in the community. There is evidence to suggest a dose-effect response in the treatment of severe mental disorders, with effects depending on the number of sessions received (Gold, Solli, Krüger & Lie, 2009). The authors note that a greater number of sessions is required for 'stronger, clinically more meaningful' effects but it is yet unclear what impact the frequency of sessions and time period will have upon effects (Gold et al., 2009; p.205).

An initial search of PUBMED, PsychINFO and the journal 'The Arts in Psychotherapy' using 'music therap*' AND 'psychosis' yielded 128 papers, many of which were published post-2006. The most recent systematic review of

effectiveness is now 5 years old, therefore it will be important to also consider more recent study findings.

Whilst Odell-Miller (2007) provides the first comprehensive overview of techniques utilised for specific diagnoses, it is clear that to date there is little distinction between interventions offered in acute stages of illness, and those offered long-term. It is also unclear as to whether music therapy techniques have been adapted for either shorter lengths of inpatient stay or for increased frequency of therapy.

Methods:

Objectives:

To identify adaptations of music therapy for use with acute adult psychiatric inpatients.

1. What are the clinical aims and considerations for music therapy with acute adult psychiatric patients in acute hospital settings?
2. How is music therapy provided in these settings in terms of frequency, duration and methods used?
3. What are the findings from outcome studies conducted in these settings?

Criteria for selecting studies for this review:

Population:

An initial search will look at use of music therapy with adult inpatients admitted to mental health hospitals. The review will then focus upon acute adult inpatients (ages 18+). Patients with comorbid disorders will be included and comorbidities noted. Mixed diagnostic groups will be included.

Intervention:

Interventions of any length, using music therapy as the main component of treatment, that utilise a mixture of active and receptive techniques will be included. Studies using passive listening, without additional therapeutic intervention, such as background music will be excluded. Studies involving concurrent interventions will be included and the concurrent interventions noted. Interventions where music therapy is delivered by a professional other than a music therapist will be included in the review if the intervention is assessed to meet the criteria as defined above.

Outcomes:

Any outcomes of clinical and therapeutic importance including diagnosis specific symptoms, general symptoms, motivation, attendance, musical engagement, musical preference, social and behavioural changes resulting from a particular music therapy intervention will be extracted and subject to narrative synthesis. Outcomes will be classified as positive change, no change, adverse events, or not reported. Any outcomes measured by rating scales will be reported as part of the review and linked to frequency and techniques when possible including diagnosis specific symptoms, general symptoms and mood.

Study Design:
As this is primarily a qualitative review to assess adaptation of techniques for increased frequency of therapy, all study designs will be included. Where prospective studies have been undertaken, study design and quality will be evaluated as part of the extraction process and included in the synthesis. No publication year or language restrictions will be applied.

Search Strategy:

1. Database search using search terms:

[* musi* or musi* or * sound* or sound* or * acou* or acou* or gim in title, abstract, index terms of REFERENCE] or [music* in interventions of STUDY] and [psychiatr* or mental*]

Followed by a hand search of studies within acute hospitals.

NB: 'gim' is included to find papers relating to Guided Imagery in Music – a specific approach utilised by music therapists involving receptive listening with the therapist guiding the client through images evoked.

Databases to search:

Allied & Complementary Medicine
Biblioline (RILM,RISM,)
British Nursing Index
CAIRSS
CENTRAL
CINAHL (R)
Cochrane Library
DH-DATA
Education abstracts
ERIC
LILACS
Medline
MTDATA 4
MT World online database
MT Temple University
OVID Gateway
Project MUSE
PsycINFO
PubMed
Social Sciences Abstracts
Social Work Abstracts
Sociological Abstracts
Web of Science

2. Following from a search of electronic databases, further searches to be conducted by hand in each of the major music therapy journals:

Approaches
Arts and Health: An international journal for research, policy and practice
The Arts in Psychotherapy
Australian Journal of Music Therapy
International Journal of Arts Medicine
Journal of Music Therapy
British Journal of music therapy
Music and Arts in Action
Music and Medicine
Music Therapy Perspectives
Music Therapy Today
New Zealand Journal of Music Therapy
Canadian Journal of Music Therapy
Nordic Journal of Music Therapy
Voices: A World forum for music therapy

3. Reference searching: References of all identified studies to be inspected for more studies.

4. Personal contact: The contact authors of relevant reviews or studies to be contacted to enquire about other sources of relevant information.

5. Review articles: Inspect references of relevant review articles for further literature

6. Cited reference search (forward search): Search ISI web of science for articles citing any of the included studies, in order to identify any more recent studies that might have been missed.

7. Books and book chapters	Guildhall School of Music & Drama Nordoff-Robbins Library British Library
8. Theses and dissertations	musictherapyworld.de Aalborg University Grieg Academy Music Therapy Centre, Norway Roehampton University (UK) GSMD (UK) University of West England (Bristol, UK) Anglia Ruskin University(Cambridge, UK) Nordoff-Robbins (London, UK) Queen Mary University Edinburgh Royal Academy of Music, Wales Nordoff-Robbins Manchester

	Temple University www.temple.edu/musictherapy British Library Catalogue US National Library of Medicine
9. Research Databases	British Association for Music Therapy (BAMT) Research Network Database
10. Conference Proceedings	World Federation of Music Therapy European Music Therapy Confederation International Music Therapy Associations BIOSYS previews ZETOC Conference papers index

Selection of studies:

Detailed citations (title and abstract) will be screened independently by 1 researcher according to the above criteria and marked as include; exclude or uncertain. Twenty-five percent will be screened by a second researcher. All studies agreed not to meet inclusion will be excluded. Disagreements will be resolved first by discussion, and then by review by a third researcher if required. Full papers will then be retrieved, and those marked as uncertain reviewed against the inclusion criteria. Comparisons between the 2 researchers will again be made and areas of disagreement, or any further papers marked as uncertain will be discussed and resolved as outlined above. Authors will be contacted for further information, should this be required.

Quality Assessment:

It is likely that the majority of papers will be observational, case reports or theoretical and therefore likely to have a high level of bias. Given the variation in music therapy training, models and approaches, these variables will be taken into account as part of the review and papers rated using the EPPI approach (trustworthiness; appropriateness in answering review question; study relevance; overall weight of evidence provided). For prospective studies, study design, allocation and concealment will be noted during data extraction and outcomes analysed according to study quality.Twenty-five percent of papers will be quality assessed by a second researcher. Disagreements will be discussed and resolved with a 3rd researcher if necessary.

Data Extraction:

Literature searches and citations will be managed and saved using Reference Manager software. The following categories will be used on a data collection proforma and entered independently by 1 researcher into an excel database. The proforma will be piloted with 10 studies and amended accordingly. 25% of the papers will be checked for accuracy of coding by a second researcher. Disagreements will be discussed and resolved with a 3rd researcher if necessary.

Data Collection Proforma:

Reference: Author/Date/Title/Journal/Source
Included: Y/N
Reason for exclusion: Frequency less than twice a week/ Not psychiatric disorder/ not music therapy
Type of paper: Journal/Book chapter/ Conference/ Dissertation/ Unpublished
Research Method/Design
Randomised Controlled trials, Case Controlled Trials, Clinical non-controlled trials, Qualitative Research, Clinical Protocols, Case Studies, Theoretical Papers with Case examples, Theoretical Papers, Expert opinion
(from Odell-Miller, 2007)
Country:
Diagnoses and criterion used: ICD/DSM categories
Setting:
Inpatient /Outpatient /Community (non-health care provider eg. charity)
Group/individual therapy:
Frequency of therapy:
Number of sessions: Offered/Attended
Duration of therapy:
Music Therapy Approaches Used:
Active/Receptive/Mixed active and receptive
Structured/Unstructured
Pre-composed/Structured improvisation/Free improvisation
Focus of therapeutic attention/Aims of therapy
Description of techniques and interventions
Theories informing approach:
Psychodynamic/Psychoanalytic/Humanistic/Neuroscientific/Psychology
Adaptations specific for increased frequency of therapy:
Reported experiences: Positive effects/Negative effects reported for each approach
Prospective study results:

- **Allocation:** Randomised/Quasi-randomised/Observational
- **Allocation concealment:** Y/N/Not reported
- **Blinding:** Blind/Double-blind/None/Not reported
- **Demographics:** N/ age range and mean/ gender %
- **Interventions:** Music therapy/ Details of additional treatment
- **Comparison:** Details/N
- **Attrition:** Number dropped out/%
- **Outcome measures and results:** Outcome/Scale/Results

Other notes:

Data Synthesis:

Narrative synthesis will be performed for objectives 1 and 2; Quantitative outcomes will be reported for objective 3, and will be subject to content analysis. Narrative synthesis will be based upon current guidelines (Popay, Rodgers, Sowden, Petticrew, Britten, Rodgers et al., 2006; Rodgers, Sowden, Petticrew, Arai, Roberts, Britten et al., 2009) and will broadly follow steps of:

1. Developing a preliminary synthesis
   Study characteristics and results will be tabulated. Approaches, theories and outcomes (positive and negative) will be categorized with descriptions. Studies will be grouped by diagnosis, theory, intervention type, design and outcomes. Approaches with similar outcomes and underlying theories will be integrated and subject to thematic analysis.

2. Exploring relationships within and between studies
   Relationships will be explored by tabulation of studies, approaches and outcomes with analyses of sub-groups. A conceptual map will be drawn up to link approaches, proposed processes and outcomes and summarise the synthesis.

3. Assessing the robustness of the synthesis product
   Quality assessment, critical reflection on the synthesis process and peer review with music therapists and researchers will be used.

References:

Drieschner K, & Pioch A. (2002). Therapeutic methods of experienced music therapists as a function of the kind of clients and the goals of therapy. *Music Therapy Today*, October, available at http://www.mttd.com/modules/mmmagazine/issues/20021018120155/20021018120645/DrieschnerMTT.pdf

Gold C, Dahle T, Heldal TO & Wigram T (2006). Music therapy for people with schizophrenia or other psychoses: a systematic review and meta-analysis. *British Journal of Music Therapy* 20 (2), pp.100-108.

Gold C, Solli HP, Krüger V & Lie SA (2009). Dose-Response relationship in music therapy for people with serious mental disorders: Systematic review and meta-analysis. *Clinical Psychology Review* 29 pp.193-207.

National Collaborating Centre for Mental Health (NCCMH), (2010). *Schizophrenia: The NICE Guideline on Core Interventions in the Treatment and Management of Schizophrenia in Adults in Primary and Secondary Care: Updated Edition.* National Clinical Guideline Number 82. London: The British Psychological Society & The Royal College of Psychiatrists

Odell-Miller, H. (2007). The practice of music therapy for adults with mental health problems: The relationship between diagnosis and clinical method. PhD Thesis, Aalborg: Aalborg University

Popay, J., Roberts, H., Sowden, A., Petticrew, M., Arai, L., Britten, N., Rodgers, M., Roen, K. & Duffy, S. (2006). *Guidance on the Conduct of Narrative Synthesis in Systematic Reviews: Final Report.* Swindon: ESRC Methods Programme.

Rodgers, M., Sowden, A., Petticrew, M., Arai, L., Roberts, H., Britten, N. & Popay, J. (2009). Testing methodological guidance on the conduct of narrative synthesis in systematic reviews: Effectiveness of interventions to promote smoke alarm ownership and function. *Evaluation15* (1), 47-71.

Silverman, M (2003). The influence of music on the symptoms of psychosis: A meta-analysis. *Journal of Music Therapy* 40: 27-40.

Supporting information S2: Search sources for systematic reviews and example search strategy

Databases: AMED, Biblioline (RILM, RISM), British Nursing Index, CAIRSS, CENTRAL, CINAHL (R), Cochrane Library, DH-DATA, Education abstracts, ERIC, LILACS, Medline, MTDATA 4, Music Therapy World online database, Temple University Music Therapy Database, OVID Gateway, Project MUSE, PsycINFO, Pubmed, Social Sciences Abstracts, Social Work Abstracts, Sociological Abstracts, and Web of Science.

Journals that were hand searched included: *Approaches, Arts and Health: An International Journal for Research, Policy and Practice, The Arts in Psychotherapy, International Journal of Arts Medicine, Australian Journal of Music Therapy, Journal of Music Therapy, British Journal of music therapy, Music and Arts in Action, Music and Medicine, Music Therapy Perspectives, Music Therapy Today, Musik Therapeutische Umschau, Musikterapi, Musikterapi in Psychiatrie, New Zealand Journal of Music Therapy, Canadian Journal of Music Therapy, Nordic Journal of Music Therapy and Voices: A world forum for music therapy*.

Library catalogues: Anglia Ruskin University, British Library, Guildhall School of Music & Drama, Nordoff-Robbins, Queen Mary University Edinburgh, Roehampton, Royal Academy of Music, Wales, University of West England, ZETOC

Music therapy research databases: British Association for Music Therapy, Nordoff-Robbins

International indexes of theses and dissertations: musictherapyworld.de, Aalborg University, Grieg Academy Music Therapy Centre Norway, Temple University

Conference proceedings: were identified from indexes of the World Federation of Music Therapy, European Music Therapy Confederation, International music therapy associations, BIOSYS previews, ZETOC and the Conference papers index.

Date	Provider	Database	Initial results
17.02.11	**Ovid**	AMED, 1985-2011	285
		Embase classic + Embase, 1947-2011	8902
		HMIC, 1983-2011	185
		Medline, 1948-2011	7280
		Medline in process	108
		Ovid Books	24
	Ebsco Host/Biblioline	RILM, 1835-2011	1598
		RISM, 1850-2011	4
		CINAHL+, 1937-2011	846
		Psychinfo, 1800-2011	12068
		Psycarticles, 1894-2011	491
18.02.11	**Trinity Western University**	CAIRSS for Music	526
21.02.11	**Cochrane Collaboration**	Cochrane Library, 1898-2011	671
	Informaworld	Education Research Abstracts, 1995-2011	20
		ERIC, 1966-2011	1109
	Virtual Health Library	LILACS	97
	Music therapy world 2001-2008	Papers	10
	www.musictherapyworld.de	Conferences	2
		Dissertations	20
	Temple University	Archives of Helen Bonny	5
		Archives of Mary Priestley	0
		Database of journals and books, 1947-2009	3708
		Project Muse, 1995-2011	5
22.02.11	**ISI Web of Knowledge**	Social Science Abstracts	135
		Web of science, 1970-2011	585
	Proquest/CSA	Social services abstracts, 1979-2011 and sociological abstracts, 1952-2011	2083
24.02.11		British Nursing Index, 1993-2011	71
		British Nursing archive, 1985-1996	21
	Elsevier	Science direct, 1823-2011	1225
	EBSCO Host	Music Index, 1970-2011	1287
		TOTAL	43371
		After removal of duplicates	15990

Example search: Ebsco Host (RILM, RISM, CINAHL+, Psycinfo, Psycharticles)

Boolean/Phrase search:

(* musi* OR musi* OR * sound* OR sound* OR * acou OR acou* OR gim) AND (psychiatr* OR mental* or schizophrenia OR psychosis OR psychotic)

In all available fields.

Supporting Information S3. Data Extraction Fields and definitions.

Data were extracted into an excel database with the following fields:

EXCEL WORKSHEET 1	Paper description, service description and client and setting observations
Included	Y- Yes: N- No
Reason for exclusion: **1.Not acute mental health inpatients** **2.Not Music Therapy**	Exclude if: 1.Setting is not for acute psychiatric inpatients (eg. day hospital, rehab) 2. Exclude if music is used primarily for background music, or without a therapeutic relationship ie. the therapist does not engage with the patient therapeutically before, during or after musical experience.
Publication type	Journal/Conference Proceeding/ Dissertation/ Book (chapter)
Paper type	Theoretical clinical, Theoretical clinical with case examples, Case Study, Case Series, Research, Clinical Manual, Literature Review
Country	Country/ Countries of origin
Diagnoses and criterion used	List any diagnoses treated, along with criteria (ICD/DSM) if listed. List any other criteria used for inclusion or exclusion to music therapy (eg. high/low functioning, acuteness of symptoms)
Setting	Note the setting and any details regarding size, purpose eg. number of beds/wards, average length of stay.
Gp/Ind	Note whether group, individual or a mixture are used in music therapy. Note whether the author defines any considerations as to which modality is used.
Frequency	Frequency of sessions per week
Number of sessions offered	Number of sessions offered to a patient during their stay (if specified in case study/research)
Number of sessions attended	Number of sessions attended by patient (if specified in case study/research)
Length of session	Length of the session in minutes
Duration of therapy	Any observations as to how long patients attend music therapy (eg. single session, 3 weeks). Note if any aspect of this is on an outpatient basis.
Music Therapy Approaches Used: **1.Act/Rec** **2.Struct/Unstructured** **3.Precomp-Improv**	1. Degree to which active music making and receptive listening are used in music therapy. 2. Active/Receptive/Mixed (mostly active/mostly rec/equal) 3.Degree of structure provided by therapist in the session 4.Structured/Unstructured/Semi-structured (guided by therapist/guided by patients) 5.Degree to which precomposed music and improvisation are used. 6.Precomposed only/Improvisation only/ Mixed (mostly precomposed/mostly improvisation)
Rationale	Reasons provided for the use of music therapy with this client group. Note any key theories that are referenced along with author (eg. Psychoanalytic-Freud; Inpatient Psychotherapy- Yalom).
Therapy Aims	Aims of music therapy specified by author
Referral Criteria	Any criteria used for referring patients to music therapy (indications/contraindications)
Techniques/Interventions	Detail as to how music therapy is delivered by the therapist within the sessions.
Adaptations/Observations to:1. Setting **2.Client Group**	Note any key adaptations used by the therapist or any observations noted by the author that are particular to the setting (short-term hospitals) or client group (acute symptomatology).
Reported Experiences: **1.Positive 2.Negative**	Note any positive or negative experiences provided by the author.
Other Notes	Any thoughts that may occur, questions or observations of interest.

Excel Worksheet 2:	**Research Papers**
Study Aims	Aims and objectives of study
Hypothesis	Insert only if stated explicitly in paper
Predictor Variables	Any variables thought to predict outcome variables (independent variables)
Outcome Variables	Any variables thought to change as a function of changes in the predictor variable (dependent variables)
Process Variables	Any other variables measured relating to processes of intervention
Measures	Any questionnaires, rating scales used to assess change. Note if the measure is an established scale or designed by the researcher. Detail of interviews etc.
Method	Research method eg. Randomised Controlled Trial, Case Controlled Trial, Clinical non-controlled trials, Qualitative research, Clinical Protocol
Inclusion and Exclusion Criteria	Any inclusion or exclusion criteria stated by author.
Sample Size	Number of participants in study, number in each arm of study if applicable
Study Results	Numerical results for quantitative studies. For qualitative studies, list key themes or points arising from research.
Limitations	Any limitations as observed by the author of the paper
Other Notes	Your own thoughts on the study- any further limitations not mentioned in paper.

Excel Worksheet 3:	**Music therapist approaches and techniques**
Approach	Note if a particular school of music therapy or thought is mentioned eg. Nordoff-Robbins, GIM, Analytic Music Therapy, Wheeler's levels of music therapy, Yalom's inpatient Psychotherapy, CBT.
L1/L2/L3	Mark if they refer to any of the 3 levels as defined by Wheeler
Function Level	Note if they provide groups for different levels of functioning.
Therapist Leadership: **1.Active (Directive)** **2.Non-directive**	Level of direction by therapist during the group. Ranging from:Active (directive), Active with loose structure, Non-directive (guided fully by patients)
Session Structure: **1.Opening/Closing** **2.Musical Events**	1.Note if the session has an opening and or closing section and describe what is done. 2.Note any structuring of musical events and how the therapist does this.
Active:	Mark if any of these approaches are used within sessions.
Improvisation: **1.Free/Associative with verbal processing** **2.Thematic** **3.Degree of control**	1.Free improvisation, with no structure 2. Improvisation on a given theme eg. 'anger' or 'the sea' 3.Improvisation with some rules provided eg. one member leads the group, all to play quietly
Recreative: **1.Musical performance ensembles** **2.Group singing** **3.Rhythmic activities** **4.Song/Music Reception**	1.Patients learn and perform precomposed music 2.Patients sing or play precomposed music 3.Structured rhythmic activities to precomposed music 4.Patients listen to music performed to them by another person
Composition: 1.Song-writing 2.Musical composition	1.Patients compose a song by writing lyrics and/or music 2.Patients compose a piece of music
Receptive: **1.Relaxation to taped music** **2.Creative movement to taped music** **3.Playback of taped improvisation** **4.Lyric Analysis** **5.Music/song reminiscence** **6.Music/Song collage** **7.Music selection with group discussion** **8.Structured affective listening** **9.GIM** **10.Music Games**	1. Patients listen to pre-recorded music and are guided in relaxation exercises 2.Patients are guided in moving to pre-recorded music 3.Patients listen back to a recording of the improvisation that they have just played 4.Patients analyse the lyrics to a popular song 5.Patients listen to music with the aim of evoking memories associated with that particular piece of music 6.Patients choose music that is meaningful to them and are assisted in making a tape/playlist of songs 7.Patients take turns to choose a piece of music to listen to and then discuss the music afterwards 8.Music is chosen to represent a specific emotion and then used as a stimulus for group discussion 9.The patient listens to a pre-selected program of music and is guided by therapist in discussing the images evoked. 10.Games played with music focus eg. musical bingo, musical charades
Use of art/ poetry/ dance/ movement	Note if other art forms are used in conjunction with music eg. drawing, poetry writing, movement, dance
Use of words	Note whether the therapist uses verbal discussion in the sessions and the extent to which this is used.
Didactic/ musical instruction	Tuition of music as a part of therapy eg. learning the guitar, learning music theory.

Supplementary Information 4: Paper Characteristics of included papers by country								Individual		Group					
Reference	**Paper type**	**Country**	**Quality (WoED)**	**Diagnosis**	**Duration of therapy**	**Duration of inpatient stay**	**N Sessions attended**	**Freq**	**Length of session**	**Freq per week**	**Length of session**	**Format**	**Location**	**Gp Size**	**Co-therapist (Yes/No)**
Clemencic-Jones (1998)[38]	Research-Pilot evaluation	Australia	0.62	Mixed	6 week pilot	ns	6 sessions offered: 4/6 attended more than 3 sessions; 2/6 only 1 session.	x	x	1pw	30-60mins	Closed	on ward	3 - 6	Y
Cullen (1993)[39]	Theoretical Clinical case vignettes	Australia	0.77	Mixed	2-4 weeks	2-4 weeks	ns	x	x	2pw	60mins	open	on ward	ns	N
Dye (1994)[44]	Research-Piloting of client evaluation of music therapy	Australia	0.63	Mixed	1 month	ns	9	x	x	1pw	60mins	ns	ns	Listening: 3 - 6 Singing: 8	N
Featherstone (2008)[47]	Pilot service evaluation	Australia	0.39	Mixed	5 weeks	2 weeks	3 attended all 10 sessions; 1 attended 5; 1 attended 7; 3 attended 2-4 sessions; 1 dropped out before attending; 1 attended 1 session. 3 inpatients came later for one-off sessions; 2 joined later (in first 2 weeks)	x	x	2pw	ns	Closed	off ward	7 - 12	Y
Halligan (2013)	**Clinical theoretical**	**Australia**	**0.93**	**Mixed**	**Ns single session view**	**ns**	**ns**	**1pw**	**ns**	**1pw**	**ns**	**ns**	**ns**	**ns**	**Y**

Morgan, Bartrop, Telfer & Tennant (2011)[74]	Research Quasi-RCT	Australia	0.87	DSM(IV) schizophr., schizoaffect. disorder or BPAD.	2 weeks	ns	4 sessions: Non-completers: 5 Tx, 6 ctl Loss to followup: 12 Tx, 11 ctl	2pw	10-30mins	x	x	x	x	x	X
Storz (2005)[112]	Theoretical-Clinical	Austria	0.57	Psychosis and Personality Disorders	10-25 sessions	2-4 months	10 to 25	ns	60mins	ns	60mins	ns	ns	ns	N
De Backer & Van Camp (2003)[41]	Case study	Belgium	0.89	Adjustment disorder ICD 10: 309.28:	12 months: Gp:8mth Ind:4mth	ns	Approx 80	1pw	45mins	2pw	45mins	ns	off ward	ns	ns
De Backer, J. (2006)[10]	Research-Single case design	Belgium	0.90	Psychosis ICD 20-29	3-6 months	ns	ns	1pw	45mins	2pw	45mins	Semi-open	off ward	ns	N
Moura Costa & Negreiros Vianna (2011)[77]	Clinical theoretical	Brazil	0.66	Psychosis	na	ns	ns	x	x	2-3pw	60-90mins	Semi-open	ns	8 - 12	Y
Arnason (1993)[29]	Theoretical Clinical case vignettes	Canada	1.00	Mixed	May only attend 1 session due to short stay	ns - notes short stay	ns	x	x	ns	ns	Semi-open	on ward	ns	Y
Bonde, Hannibal. & Pedersen (2012)[32]	Survey	Denmark	0.60	Mostly schiz./ psychosis and personality disorders. Also treat mood disorders. Rarely treat substance misuse and ED.	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns

Frederiksen & Lindvang (1998)[49]	Research-small survey of 5 therapists	Denmark	0.63	Mixed mostly schiz., BPAD, BPD, depression	ns	ns	ns	1pw	30-45mins	1-2pw	45mins	Open and closed groups	on and off ward groups	4	Y
Hannibal (2002)[56]	Clinical theoretical	Denmark	1.00	Mixed	ns	ns	3 assessments	ns	ns	x	x	x	x	x	X
Hannibal (2005)[57]	Research-Service evaluation	Denmark	0.74	Mixed mostly schiz. and personality disorder	Average 14 sessions	ns	Average 17.44 sessions offered. Average attendance 14 sessions (cancelled 3.45 sessions) - 20% cancellation rate	ns	ns	ns	ns	ns	ns	ns	ns
Hannibal, Pedersen, Hestbaek, Sorensen & Munk-Jorgensen (2012)[58]	Research-observational	Denmark	0.73	Schiz. (F2) or Personality Disorder (F6)	ns	ns	Average 18 (sd 5.5)	ns	ns	ns	ns	ns	ns	1.PD: 5-7 2.Sz: >5	ns
Hannibal et al, (2013)	Clinical theoretical-manual development for personality disorder	Denmark	1.00	Mixed	ns	ns	Individual: 35.5	ns	ns	ns	ns	ns	ns	ns	ns
Jensen (2000)[63]	Clinical theoretical with case example	Denmark	0.89	Mixed	ns- often short	Short stay	ns	x	x	2pw	45mins	Open	on ward	ns	ns
Jensen (2002)[64]	Clinical theoretical	Denmark	0.89	Mixed	ns	ns	ns	ns	ns	x	x	x	x	x	x
Lindvang & Frederiksen (2008)[66]	Clinical theoretical	Denmark	1.00	Mixed	ns- often short	1-2 weeks	Mainly 1-2 (3-22)	x	x	2pw	45mins	Open	on ward	3 - 5	Y
Lindvang (2005)[67]	Case study	Denmark	0.89	Schizophrenia	6 months	Began as inpatient for a few weeks then outpatient	20	1pw	60mins	x	x	x	x	x	x

Lund (2008)[68]	Clinical theoretical	Denmark	0.93	Mixed	na	ns	6-8 sessions	x	x	1pw	60mins	Open and closed groups	on and off ward groups	8	ns
Moe (2002)[72]	Clinical theoretical based on PhD research	Denmark	0.89	Schizophrenia	6 months	ns	ns	x	x	ns	90mins	Slow open	ns	3 - 5	N
Moe, Roesen & Raben (2000)[73]	Research-Observational quantitative	Denmark	0.67	Schizophr. and schizotypal disorders (F20-29)	6 months	ns	23-32	x	x	1-2pw	90mins	Slow open	off ward	3 - 5	N
Abs (1983)[27]	Clinical theoretical	Germany	0.63	Mixed	ns	ns	ns	1pw	ns	ns	ns	ns	ns	ns	ns
Baumgarten & Mahns (1986)[30]	Case study	Germany	0.77	Mixed	10 weeks	ns	S-3=3 S4=4 S5=3 S6=4 S7=3; S8=3 S9=3 S10=3	ns	ns	1pw	60mins	semi-closed	off ward	4	Y
Exner (1998)[45]	Case study	Germany	0.82	Schizo-phreniform psychosis	2 years-began as acute inpatient. Duration of acute phase not specified.	ns	Approx 104	1pw	60mins	x	x	x	x	x	X
Haase & Reinhardt (2011)[35]	Case study	Germany	0.82	Anxious-Avoidant personality disorder	6 months	ns	ns	ns	ns	ns	ns	ns	ns	30-40	N
Hopster (2005)[61]	Research - observational	Germany	0.76	Mixed	Around half of patients treated for 4 weeks or less	<4wks	ns	ns	ns	x	x	x	x	x	X
Maler, von Wietersheim Schurbohm, & Nagel (1994)[69]	Theoretical Clinical/ Research	Germany	0.57	Mixed	3 weeks	ns	10 sessions offered	x	x	3pw	90 minutes	semi-closed	ns	6	N

Metzner (2003)[71]	Case study	Germany	0.93	Acute psychotic condition	2.5 months	ns	5	ns	ns	x	x	x	x	x	x
Metzner (2010)[72]	Case study	Germany	0.83	Chronic paranoid-hallucinat. psychosis with secondary addiction disorder (alcohol and drugs)	Almost 1 year	Almost 1 year, length of acute phase not specified	78	2pw	30mins	x	x	x	x	x	x
Metzner (2013)	**Case study**	**Germany**	**1.00**	**Paranoid schiz. F20.0**	**9 weeks**	**ns**	**9**	**1pw**	**30mins**	**x**	**x**	**x**	**x**	**x**	**x**
Reker (1991)[90]	Research - observational	Germany	0.60	Schizophr.	Up to 38 weeks	19.4wks (3-75wks)	3-38 sessions (average 9)	x	x	1pw	60mins	Open	off ward	5 - 7	N
Seitz (2002)[93]	Theoretical with case examples	Germany	0.59	Psychosis	ns	ns	na	ns	ns	ns	ns	ns	ns	ns	ns
Strehlow (2013)	Clinical theoretical with case vignettes	Germany	0.89	Personality disorder	ns	ns	ns	ns	ns	x	x	x	x	x	x
Strehlow & Piegler (2011)[113]	Theoretical Clinical	Germany	1.00	Mixed Case study: Personality Disorder	ns	ns	ns	2pw	30mins	2pw	75mins	Slow open	off ward	6	N
Strunck (1986)[114]	Theoretical - Clinical	Germany	0.70	Mixed neurosis, psychosis, substance abuse	ns	ns	2 attended of 3 offered	ns	ns	ns	ns	open	on ward	ns	N
Ulrich, Houtmans & Gold (2007)[118]	Research-RCT	Germany	0.90	Schizophr. ICD F20-29	5 weeks	ns	Average 7.5 sessions attended. 10 sessions offered	x	x	2pw	45mins	Semi-open	off ward	ns	N
Vogt-Schaeffer (1991)[119]	Theoretical Clinical	Germany	0.52	Mixed	ns	ns	ns	na	na	na	na	na	na	na	na

Mössler, Fuchs, Heldal, Karterud, Kenner, Naesheim & Gold (2011)[76]	Research summary with case vignettes	Germany, Austria, Norway, Australia	0.92	Mixed	3 months	ns	1. 24/24 2.25/25 3. 16/possible 24 (estimate) 4. 6/6 or 12 over 6 wks	2pw	45-50mins	x	x	x	x	x	X
Sekeles (1999)[94]	Clinical theoretical with case example	Israel	0.89	Pathological mourning	6 months	5 months	Approx. 96	4pw	60mins	x	x	x	x	x	X
di Massimo, Boggio, D'Ulisse, Ferrara & Ordine (1998)[42]	Theoretical/ Preliminary research (no results)	Italy	0.26	Mixed	Average 3-4 weeks	Average 3-4 weeks	589pts over 77 sessions-average 7.5 pps	x	x	1-2pw	45-60mins	open	on ward	7 - 8	Y
Saitoh (2011)[92]	Case study	Japan	0.29	Borderline personality disorder	6 months	6 months	Approx. 24	x	x	Fortnightly	60mins	Open	ns	ns	ns
Gold, Solli, Krüger & Lie (2009)[4]	Research-Systematic review and meta-analysis	Norway		Mixed	1-6 months	na	1. median 8/12; 2. 7.5 3. 11.8/20 4. M11.8/15 5. 23-32 6. M35.8/40	1-6pw	20-90mins	1-6pw	20-90mins	ns	ns	ns	ns
Gold, Mössler et al (2013)	Multicentre randomised controlled trial	Norway, Austria, Australia	0.80	Mixed (low therapy motivation)	3 months	36 1 month 18 3 months 13 9 months	Mean attendance 17.5 (sd=5.5) out of at least 18 to 26 sessions	2pw	45 mins	x	x	x	x	x	X
Mössler, Assmus, Heldal & Gold (2012)	Process research from RCT	Norway, Austria, Australia	0.59	Mixed (low therapy motivation)	3 months	36 1 month 18 3 months 13 9 months	Mean attendance 19 (12-25)	2pw	45 mins	x	x	x	x	x	x
Rolvsjord (2010)[13]	Case studies (thesis)	Norway	1.00	Mixed- 1. BPD impulsive 2. PTSD	1. 9 months 2. 3 years	1. 9 months 2. 6 months Length of acute phase not specified	1. 35 2. 133	1pw sometimes more often	45-60mins	x	x	x	x	x	x
Solli (2003)[106]	Theoretical Clinical	Norway	1.00	Mixed	Sessions seen as standalone	ns	ns	x	x	1	60mins	Open	On ward	ns	Y

Solli (2006)[107]	Theoretical Clinical with case examples	Norway	1.00	Mixed-mostly schizophr. and substance abuse	Sessions seen as standalone	ns	ns	1-2pw	60mins	1pw	60mins	Open	On ward	ns	ns
Solli (2008)[109]	Case study	Norway	1.00	Mixed CS: Schizophr.	7 months	7 months, length of acute phase not specified	28	1pw	45-60mins	ns	ns	ns	ns	ns	ns
Solli (2009)[109]	Theoretical Clinical with case study	Norway	1.00	Mixed-Case= Paranoid schizophr.	ns approx 11 months	12 months, length of acute phase not specified	ns	1pw	10-60mins	1	60mins	Open	On ward	ns	ns
Solli & Rolvjsord (2009)[110]	Theoretical Clinical with case example	Norway	1.00	Psychosis	7 months	7 months, length of acute phase not specified	28	1pw	60mins	x	x	x	x	x	x
Stige (2011)[111]	Case study	Norway	0.82	Depression	2.5 years mostly outpatient	ns	66 (4 ax)	1pw	60mins	x	x	x	x	x	x
Solli (2012)	**Clinical Theoretical**	**Norway**	**1.00**	**Mixed (case study: paranoid schizophr.)**	**ns**	**ns**	**ns**	**Y**	**ns**	**Y**	**ns**	**Open**	**ns**	**ns**	**ns**
Solli & Rolvsjord (2014)	Qualitative study	Norway	0.96	Psychotic disorder	3-34 months (mean 13 mths)	ns	Mean 31 (range 14-55)	1pw	30-60mind	1pw	45mins	Open	Ward TV room	ns	N
Solli, Rolvsjord & Borg (2013)	Meta-synthesis	Norway (included international papers)	0.73	Mixed	na	na	na	na	na	na	na	na	na	na	Na
Leite (2008)[65]	Theoretical Clinical	Portugal	1.00	Mixed	ns	ns	ns	x	x	ns	ns	open	ns	ns	N
Ansdell & Meehan (2010)[28]	Research-Qualitative idiographic interviews	UK	0.77	Mixed	Study: Interview after 10 weeks	na	na	1pw	ns	x	x	x	x	x	x

Bunt, Pike, & Wren (1987) [34]	Research-Pilot evaluation	UK	0.58	Mixed	8 weeks	ns	48 sessions offered: 6 attended 35/48 (73%); Non attendance 13/48 (27%)	x	x	1pw	60mins	Closed	off ward	6	Y
Davies & Richards (1998)[40]	Case study	UK	1.00	Mixed	Sessions seen as standalone	ns	ns	x	x	1pw	60mins	open	on ward	5 - 10	Y
Fenwick (1970)[48]	Clinical theoretical	UK	0.52	Mixed	ns	ns	ns	1pw	60mins	1pw	60mins	Open	on and off ward groups	ns	ns
Gibson, Novakovic & Francis (2008)[50]	Research-Service Evaluation	UK	0.50	Mixed	Study: 32 weeks	ns	ns	x	x	1pw	ns	ns	on ward	ns	Y
Grandison (1991)[54]	Service evaluation	UK	0.70	Mixed	ns	26 days	ns	1-2pw	ns	1pw	ns	open	on ward	4	N
Moss (1999)[75]	Research- Pilot project	UK	0.59	Mixed	ns	ns	ns	ns	ns	ns	ns	ns	ns	5	N
Odell-Miller (1986)[82]	Report	UK	0.66	Mixed	ns	ns	ns	x	x	ns	ns	ns	ns	ns	ns
Odell-Miller (1992)[12]	Clinical theoretical	UK	0.66	Mixed	ns	ns	ns	ns	ns	3pw	ns	ns	ns	ns	ns
Odell-Miller (2001)[83]	Research-Rationale for study/protocol	UK		Mixed	6 months	ns	na	ns	ns	ns	ns	ns	ns	ns	ns
Odell-Miller, Hughes & Westacott (2006)[84]	Research - Randomised controlled trial	UK	0.83	Mixed	6 months	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
Pavlicevic (1987)[85]	Theoretical Clinical- 2 case vignettes	UK	0.72	Mixed	ns	na	na	na	na	na	na	na	na	na	na
Priestley (1975)[86]	Theoretical with case examples	UK	0.77	Mixed	na	na	na	ns	ns	0.5-2pw	ns	open	on and off ward groups	3 - 18	Y
Procter (2002)[87]	Clinical-theoretical	UK	0.70	Mixed	ns	ns	ns	ns	ns	ns	ns	Open	on ward	ns	ns

Rowland & Read (2011)[91]	Research- Pilot evaluation	UK	0.48	Mixed	25 weeks	ns	Patient A: 16/19, G: 14/21. Ward 1: 3/5 Ward 2: 4/6	x	x	1pw	60mins	Closed	on ward	5	N
Sloboda (2008)[104]	Clinical Theoretical with case studies	UK	0.77	Mixed	ns	Short stay	ns	x	x	1pw	ns	open	on ward	6	Y
Talwar, Crawford, Maratos, Nur, McDermott & Procter (2006)[116]	Research-RCT	UK	0.87	Schizophrenia ICD F20-29	12 weeks	ns	All attended at least 1 session; 22 attended at least 4 sessions (67%); 7 (21%) attended all 12 sessions. Median = 8 sessions.	1pw	45mins	x	x	x	x	x	x
Blake & Bishop (1994)[31]	Clinical theoretical	USA	0.89	PTSD	2 weeks	2 weeks	Suggest minimum 3	2pw	ns	ns	ns	ns	ns	ns	ns
Braswell, et al(1986)[33]	Scale development	USA	0.55	Mixed	na	ns	na	na	na	na	na	na	na	na	na
Cassity & Cassity (1994)[36]	Research - survey	USA	0.57	Mixed	ns	ns	ns	na	na	na	na	na	na	na	na
Cassity & Cassity (2006)[37]	Clinical manual	USA	0.59	Mixed	na	May range from 1-50 sessions	Suggest up to 20	ns	ns	x	x	x	x	x	X
Cassity (1976)[38]	Research-Quasi-RCT	USA	0.48	Mixed	2 weeks	ns	10 sessions offered	x	x	5pw	60mins	Closed	ns	7	N
Dvorkin (2008)[43]	Theoretical Clinical	USA	0.93	Mixed	ns	ns	na	x	x	ns	ns	ns	ns	ns	ns
Eyre (2011)[46]	Case study	USA	0.59	Psychosis - with anorexia, → dissociative identity disorder	6months	Multiple admissions over 6 month period	ns	1-3pw	30mins	ns	ns	ns	ns	ns	ns

Goldberg (1989)[51]	Theoretical-clinical practice	USA	1.00	Mixed-primarily schizophr.; major affective disorders with and without psychosis; BPD	17 days (2 days - 2 months)	17 days (2 days - 2 months)	ns	Scheduled frequently	ns	5pw	ns	1. open 2. focused	ns	ns	N
Goldberg (1994)[52]	Theoretical - clinical	USA	1.00	Mixed mostly psychosis	na	17 days (5-30)	ns	x	x	5pw	15-30mins as part of 60min pth	semi-open	ns	4 - 8	N
Goldberg, McNiel & Binder (1988)[53]	Research-Mixed methods	USA	0.84	Mixed mostly psychosis	17 days	17 days	ns - 201 sessions studied	x	x	5pw	50mins	Semi-open	on ward	ns	N
Hara (1999)[59]	Theoretical-Clinical Practice	USA	0.93	Mixed	ns	ns - notes short stay	ns	x	x	ns	ns	ns	ns	ns	N
Heaney (1992)[60]	Research - survey	USA	0.69	Mixed	average 10 days	21 days	na	ns	ns	ns	ns	ns	ns	ns	ns
Hudson Smith (1991)[62]	Case study	USA	0.83	Mixed CS: Depression	18 months - 3 x hospital-isations - individual MT 2xpw for 8 months between 2nd and 3rd hospital-isation.	Hospitalised 1: 30 days 2: 4.5 mth 3: 3 weeks	ns	x	x	Daily	60mins	semi-closed	off ward	ns	N
Murphy (1991)[78]	Case study	USA	1.00	Mixed CS: Major bipolar affective disorder	3.5 months	3.5 months	23	x	x	Range of groups provided over week	Open singout 45 mins	Open and closed groups	Open-dayroom; closed- off	ns	N

Murphy (1992)[79]	Theoretical Clinical- 2 case vignettes	USA	1.00	Mixed CS 1: Depression CS 2: Severe depression	ns	2 months	na	1-2pw	ns	2-3pw	ns	Open and closed groups	on ward	4 - 10	N
Nolan & Ierardi (2007)[80]	Theoretical Clinical - Detailed approaches	USA	1.00	ns	na	na	ns	na	na	na	na	na	na	na	na
Nolan (1991)[81]	Case study	USA	1.00	Mixed CS: Schizophrenia	ns	3 weeks	ns	ns	ns	3pw	60mins	ns	On ward	4	N
Ragland (1973)[88]	Theoretical-clinical	USA	0.42	Mixed	ns	ns- short term	ns	x	x	3pw	60mins	1. Open 2. Patient select closed	1. On ward 2. Off ward	ns	ns
Ready (2011)[89]	Case study as part of doctoral research	USA	0.31	Psychosis	na	9 weeks (3 wks acute)	na	1-2pw	30min	5pw	60mins	ns	On unit	ns	ns
Riley (2013)	**Observational post-test Comparison of 3 types of group**	**USA**	**0.66**	**Mixed**	**Single session**	**ns**	**Single session**	**x**	**x**	**1pw**	**45-50mins**	**Open**	**Public area (café or patio) on unit**	**ns**	**ns**
Shultis (1999)[95]	Theoretical-clinical	USA	0.69	Mixed	Single session	ns- short term	1	Single session	ns	ns	ns	ns- 3 types of group activity offered	ns	ns	ns
Silverman & Marcionetti (2004)[96]	Research-pre-post	USA	0.62	Primary Axis I-schizophr., schizo-affective disorder, bipolar disorder, major depressive disorder, psychosis nos	Single session over 3 weeks	1 day - 1 month	8 sessions studied; single session focus	x	x	2pw	45mins	Open	ns	3 - 15	N

Silverman (2003)[97]	Case study	USA	1.00	Schizophr.	36 days	40 days	21-24	x	x	5pw	45mins	Open	Activities room on unit	Up - 24	Y
Silverman (2007)[98]	Research - survey	USA	0.66	Mixed	ns	Typically 7 months	na	1-6pw	31-45mins	1-6pw	31-45mins+	ns	ns	Most 5 - 8 (1 - >21)	61.7% N
Silverman (2009a)[99]	Theoretical-clinical with case example	USA	0.83	Mixed. Case study: Depressive disorder	3 days	3 days	5	x	x	5pw	45mins	open	on ward	3 - 26	N- hospital staff present
Silverman (2009b)[100]	Research-pre-post	USA	0.67	Mixed	Single session over 5 months	3-5 days	Single session focus: mean ppts per session = 4 vs 3.46 ctl. Ppts attended 28/32 sessions (87.5%). Data collected over 28 sessions (15 exp, 13 control).	*x*	*x*	2pw-single session approach	ns	semi-open (IC for research)	activity room on unit	ns	N
Silverman (2010)[101]	Research-survey	USA	0.81	Mixed	5 days	2wks - a few months	3/15 attended more than one session ie. 12/15 attended only one session.	x	x	5pw	45mins	open	off ward	ns	N
Silverman (2011a)[102]	Research-Randomised clinical effectiveness study	USA	0.56	Mixed	Single session	3-7 days	16 - assume single session accessed	x	x	1pw	ns	Open	ns	ns	N
Silverman (2011b)[103]	Research- Pilot randomised controlled trial	USA	0.53	Mixed	Study 1: 4 weeks Study 2: Single session	ns	ns	x	x	3pw	30-45mins	Open	ns	Study 1: 1 - 3 Study 2: 2 - 6	N

Silverman (2013a) Arch Psych Nurs	**Cluster RCT**	**USA**	**0.68**	**Mixed**	**Single session**	**3-7 days**	**Single session**	**x**	**x**	**1pw**	**45mins**	**Open**	**On inpatient unit**	**Mean =7.13 (sd 1.55)**	**N**
Silverman (2013b) NJMT	**Cluster RCT**	**USA**	**0.69**	**Mixed**	**Single session**	**3-7 days**	**Single session**	**x**	**x**	**1pw**	**ns**	**Open**	**On inpatient unit**	**Mean =7.00 (sd2.24)**	**N**
Silverman & Leonard (2012)	**Cluster RCT**	**USA**	**0.67**	**Mixed**	**Single session**	**2wks-few months**	**Single session**	**x**	**x**	**5pw**	**45mins**	**Open**	**Activity room on inpatient unit**	**Mean =7**	**N**
Silverman & Rosenow (2013)	**Pre-Post**	**USA**	**0.69**	**Mixed**	**Single session**	**3-7 days**	**Single session**	**x**	**x**	**2pw**	**ns**	**Open**	**ns**	**ns**	**Y**
Smith (1975)[105]	Clinical theoretical	USA	0.59	Mixed	ns	27 days	ns	ns	ns	ns suggests high intensity is required	ns	ns	ns	ns	Ns
Sullivan (2003)[115]	Theoretical-Clinical	USA	0.63	Mixed	ns	ns	ns	x	x	Several times per week	45-60mins	Open: Varying focus eg. listening, song-writing, singing, drum-ming	On ward	ns	N
Tague (2012)	**Cluster randomised pre-post**	**USA**	**0.65**	**Mixed**	**Single session**	**7 days**	**Single session**	**x**	**x**	**1pw**	**45mins**	**Open**	**Dining room/ patio area or class room**	**ns**	**N**
Thomas (2007)[117]	Theoretical-Clinical	USA	0.83	Mixed	Short stay	ns- short term	ns	x	x	ns	ns	1. Open 2. Closed focussed groups	1. On ward 2. Off ward	*ns*	*ns*
Wolfe (1996)[120]	Theoretical-Clinical	USA	0.59	Mixed	Short stay	ns- short term	ns	x	x	5pw	ns	ns	ns	6 - 9	ns

X – Not used; ns – not specified; na – not applicable; CS- Case study; Y – Yes; N - No

Supplementary Information S5. Paper characteristics and coverage of themes*

S5. Paper characteristics and coverage of themes		Clinical Aims								Setting specific themes					Patient specific themes				
Reference	**Country**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**S1**	**S2**	**S3**	**S4**	**S5**	**P1**	**P2**	**P3**	**P4**	**P5**
Abs (1983) [27]	Germany	x		x	x	x	x			x	x				x		x		
Ansdell & Meehan (2010) [28]	UK			x				x									x		
Arnason (1993) [29]	Canada	x	x	x				x	x	x	x	x	x	x	x	x	x	x	x
Baumgarten & Mahns (1986)[30]	Germany																x	x	x
Blake & Bishop (1994) [31]	USA		x	x		x	x	x						x					x
Bonde, Hannibal. & Pedersen (2012).[32]	Denmark	x	x	x	x	x	x	x	x	x	x	x	x	x		x			
Braswell, Brooks, Decuir, Humphrey, Jacobs & Sutton (1986)[33]	USA															x			
Bunt, Pike, & Wren (1987)[34]	UK	x	x	x	x	x		x						x		x			
Cassity & Cassity (1994)[35]	USA															x			
Cassity & Cassity (2006)[36]	USA							x	x					x					
Cassity (1976)[37]	USA		x						x							x			
Clemencic-Jones (1998)[38]	Australia	x	x	x	x	x	x	x	x	x						x	x		
Cullen (1993)[39]	Australia		x	x	x									x					x
Davies & Richards (1998)[40]	UK	x	x					x		x		x	x	x	x	x	x		

S5. Paper characteristics and coverage of themes		Clinical Aims								Setting specific themes					Patient specific themes				
Reference	**Country**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**S1**	**S2**	**S3**	**S4**	**S5**	**P1**	**P2**	**P3**	**P4**	**P5**
De Backer & Van Camp (2003)[41]	Belgium		x		x	x		x		x	x	x			x	x			x
De Backer, J. (2006) [10]	Denmark		x			x		x		x		x				x	x	x	x
Dvorkin (2008)[43]	USA	x	x	x	x			x	x					x	x	x	x		
Dye (1994) [44]	Australia															x			
Exner (1998)[45]	Germany		x	x		x	x	x										x	
Eyre (2011)[46]	USA		x			x	x								x	x	x		
Featherstone (2008)[47]	Australia	x	x					x		x				x	x				x
Fenwick (1970)[48]	UK		x		x			x	x	x						x		x	
Frederiksen & Lindvang (1998)[49]	Denmark		x		x			x		x	x	x	x	x	x	x			x
Gibson, Novakovic & Francis (2008)[50]	UK	x							x			x							
Gold, Mössler, Grocke et al., (2013)	Austria, Australia, Norway	x	x	x	x			x											x
Gold, Solli, Kraeger & Lie (2009) [4]	Norway	x	x		x	x	x		x										
Goldberg (1989)[51]	USA	x			x			x	x					x	x	x			
Goldberg (1994)[52]	USA		x					x	x		x	x		x	x				x

S5. Paper characteristics and coverage of themes		Clinical Aims								Setting specific themes					Patient specific themes				
Reference	**Country**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**S1**	**S2**	**S3**	**S4**	**S5**	**P1**	**P2**	**P3**	**P4**	**P5**
Goldberg, McNiel & Binder (1988)[53]	USA	x						x	x				x	x					
Grandison (1991)[54]	UK		x	x						x	x	x		x		x			x
Haase & Reinhardt (2011)[55]	Germany		x	x		x		x		x					x		x	x	x
Halligan (2013)	USA	x	x	x	x			x			x	x	x	x	x		x		x
Hannibal (2002)[56]	Denmark		x	x		x				x		x			x			x	x
Hannibal (2005)[57]	Denmark														x	x			x
Hannibal, Pedersen, Hestbaek, Sorensen & Munk-Jorgensen (2012)[58]	Denmark											x							x
Hannibal, Pedersen, Ole Bonde et al., (2013)	Denmark	x	x	x	x	x	x	x		x					x	x		x	x
Hara (1999)[59]	USA		x	x	x			x					x	x	x		x	x	x
Heaney (1992)[60]	USA									x	x	x							
Hopster (2005)[61]	Germany		x											x			x		
Hudson Smith (1991)[62]	USA		x	x											x		x	x	x
Jensen (2000)[63]	Denmark	x	x	x	x			x	x	x				x	x	x			x
Jensen (2002)[64]	Denmark	x		x	x	x		x	x					x	x		x		x
Leite (2008)[65]	Portugal			x	x	x		x	x	x	x		x	x	x	x	x		x

S5. Paper characteristics and coverage of themes		Clinical Aims								Setting specific themes					Patient specific themes				
Reference	**Country**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**S1**	**S2**	**S3**	**S4**	**S5**	**P1**	**P2**	**P3**	**P4**	**P5**
Lindvang & Frederiksen (2008)[66]	Denmark		x	x						x		x	x		x	x		x	x
Lindvang (2005)[67]	Denmark											x	x						
Lund (2008)[68]	Demark		x	x		x		x			x	x	x			x			
Maler, von Wietersheim, Schurbohm, & Nagel (1994)[69]	Germany			x	x	x		x				x							
Metzner (2003)[70]	Germany		x			x	x					x			x				x
Metzner (2010)[71]	Germany							x				x						x	
Metzner, (2013)	Germany	x	x	x	x					x				x	x	x			x
Moe (2002)[72]	Denmark		x			x		x							x				
Moe, Roesen & Raben (2000)[73]	Denmark					x		x						x	x	x			x
Morgan, Bartrop, Telfer & Tennant (2011)[74]	Australia		x	x	x	x	x							x	x				x
Moss (1999)[75]	UK	x	x	x	x		x					x							
Mössler, Fuchs, et al., (2011)[76]	Multicentre European							x					x	x	x	x		x	x
Mössler, Assmus, et al., (2012)	Austria, Australia, Norway	x	x					x											x
Moura Costa & Negreiros	Brazil	x	x	x		x	x	x						x	x				x

S5. Paper characteristics and coverage of themes		Clinical Aims								Setting specific themes					Patient specific themes				
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Vianna (2011)[77]																			
Murphy (1991)[78]	USA	x	x		x	x		x	x	x		x			x	x	x		
Murphy (1992)[79]	USA	x	x	x				x	x	x	x		x	x	x	x			x
Nolan & Ierardi (2007)[80]	USA		x	x	x	x	x	x	x					x	x				
Nolan (1991)[81]	USA				x			x	x								x		x
Odell-Miller (1986)[82]	UK	x		x	x			x	x		x			x	x				
Odell-Miller (1992) [12]	UK					x		x	x		x	x		x					
Odell-Miller (2001)[83]	UK						x	x			x								
Odell-Miller, Hughes & Westacott (2006)[84]	UK				x			x								x			
Pavlicevic (1987)[85]	UK											x				x	x	x	x
Priestley (1975)[86]	UK	x	x	x	x			x	x	x		x	x	x	x	x	x		
Procter (2002)[87]	UK				x			x	x	x									x
Ragland (1973)[88]	USA		x	x	x	x				x		x				x			x
Ready (2011)[89]	USA				x														x
Reker (1991)[90]	Germany	x	x	x	x	x		x				x			x	x	x	x	
Riley (2013)	USA	x	x		x	x				x		x	x	x	x	x			x
Rolvsjord (2010) [13]	Norway							x			x				x		x		x

S5. Paper characteristics and coverage of themes		Clinical Aims								Setting specific themes					Patient specific themes				
Reference	**Country**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**S1**	**S2**	**S3**	**S4**	**S5**	**P1**	**P2**	**P3**	**P4**	**P5**
Rowland & Read (2011)[91]	UK		x	x	x	x		x			x	x							
Seitz (2002)[93]	Germany														x				
Sekeles (1999)[94]	Israel			x	x			x							x	x			x
Shultis (1999)[95]	USA			x	x		x	x							x	x			
Silverman & Leonard (2012)	USA	x		x				x			x			x	x	x			x
Silverman & Marcionetti (2004)[96]	USA			x	x		x	x	x					x					x
Silverman & Rosenow (2013)	USA	x	x	x	x	x	x	x			x	x	x	x	x	x	x		x
Silverman (2003b)[97]	USA		x	x						x		x		x	x				x
Silverman (2007)[98]	USA	x	x	x	x	x	x	x	x	x	x	x							
Silverman (2009a)[99]	USA			x				x						x				x	x
Silverman (2009b)[100]	USA	x							x	x		x	x	x			x	x	x
Silverman (2010)[101]	USA		x	x				x	x										x
Silverman (2011a)[102]	USA							x	x										x
Silverman (2011b)[103]	USA							x						x				x	x
Silverman (2013a)	USA	x						x					x	x			x		x
Silverman (2013b)	USA	x					x	x	x	x			x	x	x	x			x
Sloboda (2008) [104]	UK				x			x			x	x	x						x

S5. Paper characteristics and coverage of themes		Clinical Aims								Setting specific themes					Patient specific themes				
Reference	**Country**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**S1**	**S2**	**S3**	**S4**	**S5**	**P1**	**P2**	**P3**	**P4**	**P5**
Smith (1975)[105]	USA	x		x	x	x		x						x					
Solli (2003)[106]	Norway	x	x	x	x			x	x	x		x	x	x	x	x			
Solli (2006)[107]	Norway	x	x	x	x			x											
Solli (2008)[108]	Norway	x		x	x			x	x	x		x			x	x		x	
Solli (2009)[109]	Norway	x	x	x	x			x	x	x	x	x	x	x	x	x	x	x	x
Solli (2012)	Norway	x	x	x	x			x	x		x		x	x	x	x	x	x	x
Solli & Rolvsjord (2009)[110]	Norway	x	x	x	x			x				x			x				x
Solli & Rolvsjord (2014)	Norway	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x
Solli, Rolvsjord & Borg (2013)	Multiple	x	x	x	x			x						x					
Stige (2011)[111]	Norway	x	x	x	x		x	x		x					x			x	x
Storz (2005)[112]	Austria		x			x		x						x				x	
Strehlow & Piegler (2011)[113]	Germany		x	x	x	x	x	x				x			x				
Strehlow (2013)	Germany	x	x	x	x	x	x				x	x			x	x			
Strunck (1986)[114]	Germany		x	x	x			x						x		x			x
Sullivan (2003)[115]	USA	x						x	x							x			x
Tague (2012)	**USA**	x	x	x	x	x	x	x		x	x		x	x	x	x			x
Talwar et al., (2006)[116]	UK		x	x	x		x							x					

S5. Paper characteristics and coverage of themes		Clinical Aims								Setting specific themes					Patient specific themes				
Reference	**Country**	**A1**	**A2**	**A3**	**A4**	**A5**	**A6**	**A7**	**A8**	**S1**	**S2**	**S3**	**S4**	**S5**	**P1**	**P2**	**P3**	**P4**	**P5**
Thomas (2007)[117]	USA	x	x		x	x	x		x	x	x		x	x	x		x		x
Ulrich et al.,(2007)[118]	Germany		x											x		x			
Vogt-Schaeffer (1991)[119]	Germany	x	x	x	x			x	x	x	x	x							
Wolfe (1996)[120]	USA	x		x	x	x		x				x		x		x	x	x	x
TOTAL		49	66	66	53	39	34	68	40	37	28	42	26	52	54	50	30	25	50

* Papers considering acute inpatient music therapy only are highlighted in bold

Clinical aims: A1 = Engagement, A2 = Interpersonal, A3 = Self-expression and communication, A4 = Emotional, A5 = Cognitive, A6 = Symptom specific, A7 = Building Resources, A8 = Issues arising from hospitalisation

Setting specific themes: S1 = Hospital environment, S2 = Institutional structure, S3 = Multidisciplinary team, S4 = Patient turnover, S5 = Short time frame

Patient specific themes: P1 = Symptom severity, P2 = Functioning level, P3 = Reaction to hospitalisation, P4 = Previous experiences of therapy, P5 = Patient engagement

Supplementary Information S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Hospital environment			
Chaotic and unsettled environment	Engagement and participation of patients Patients may be early/late Group programmes subject to change at short notice. Group programmes inadequately coordinated. Music therapy session is delayed or interrupted Music played by patients disturbs others Events on ward can come into group.	Therapist brings music therapy onto ward and treats whole ward as a subgroup in open ward groups. Joins with competing stimuli eg. TV. Team must provide therapy that complements and supports patients in hospital. Environment must support music therapist in bringing and assisting clients to access sessions. Therapist holds group in day room for safety. Mood on ward is positively influenced by music therapy sessions. Therapist works with client playing in music therapy sessions. Boundaries: Environmental boundaries used to help patients feel safe and secure but must not exclude staff. Consistency of time and place of group.	Abs, 1993[27] Bonde et al., 2012[32] De Backer, 2006[10] Featherstone, 2008[47] Grandison, 1991[55] Hannibal, 2002[57] Leite, 2008[65] Lindvang & Frederiksen, 2008[66] Murphy, 1992[79] Priestley, 1975[87] Ragland, 1973[89] Silverman, 2003[97] Silverman, 2009b[101] Solli, 2006[107] Solli, 2008[108] Solli, 2009[109] Thomas, 2007[118] Vogt-Schaeffer, 1991[119]
Limited availability of staff and resources: Finance, Staff, Space	Availability, repair and maintenance of instruments Availability to escort patients to group Suitability and consistency of therapy location First encounter usually occurs outside of therapy room Arts therapists usually not ward based	Music therapy offered to all on unit Therapist meets patient in ward round or coffee break Communication with Multidisciplinary Team	Arnason, 1993[29] Clemencic-Jones, 1998[38] Davies & Richards, 1998[40] Dye, 1994[44] Frederiksen & Lindvang, 1998[49] Haase & Reinhardt, 2011[55] Heaney, 1992[60] Jensen, 2002[64] Leite, 2008[65] Murphy, 1992[79] Silverman, 2007[98] Vogt-Schaeffer, 1991[119]
Institution Structure			
Staff turnover	Lack of consistency in involvement and communication with staff. Relationships with patients and services disrupted.		Heaney, 1992[60] Rowland & Reed, 2011[91] Vogt-Schaeffer, 1991[119]
Service hierarchy	Difficult for patients to see past hierarchical role Admission/Discharge dictated by Consultant	Increased Multidisciplinary team communication. Involvement of staff in music sessions to provide opportunity to see staff member in different environment	Abs, 1983[27] Goldberg, 1994[52]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Fit of music therapy service with institution structure	No onward referral at discharge Small service- Part time employment limits integration, therapist unable to attend ward rounds Lack of fit between theoretical models of treatment Lack of distinction between activity and psychotherapy Focus upon medication and not therapy	Staff communication, supervision, education and training by music therapist. Use of co-therapist with another member of multidisciplinary team. Team discussions to find and maintain a coherent model of work. Clear boundaries maintained for music therapy.	Bonde et al., 2001[32] De Backer & van Camp, 2003[41] Frederiksen & Lindvang, 1998[49] Grandison, 1991[54] Heaney, 1992[60] Murphy, 1992[79] Odell-Miller, 1986[82] Odell-Miller, 1992[12] Odell-Miller, 2001[83] Sloboda, 2008[104] Solli, 2009[110] Thomas, 2007[117] Vogt-Schaeffer, 1991[119]
Highly structured routine: Other appointments, visitors, smoking breaks, leave, group programme	Competing activities limit attendance and blur confidentiality/therapeutic boundaries. Difficulty for staff and patients to differentiate between groups. Lack of integration between wards Limited time for music therapist to prepare for group Patient preoccupation with leave and other hospital matters	Patients learn from other patients about music therapy service.	Abs, 1983[27] Arnason, 1993[29] Bunt, Pike & Wren, 1987[34] Cullen, 1993,[39] Davies & Richards, 1998[40] Fenwick, 1970[48] Goldberg, 1994[52] Leite, 2008[65] Lund, 2008[68] Ragland, 1973[88] Reker, 1991[90] Silverman, 2007[98] Solli, 2003[106] Solli, 2008[108]
Short length of stay			

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Access to only a few or even a single session	Only small clinical gains may be made Less time to work through psychotherapeutic issues Magnification of transference and counter-transference Therapeutic alliance must be built rapidly but may take time to develop. Little time for group cohesion to develop. Patient needs time to stabilise.	Analytical approaches are adapted or dropped for more behavioural, educational or supportive approaches Psychodynamic- discussions are concrete, with minimal interpretation. Transference may not be fully worked through: Focal music therapy (Storz, 2005). Here and now focus Increased frequency of sessions Open groups to engage patients earlier and increase access as soon as possible. Patients encouraged to attend as soon as behaviour allows for appropriate group interaction. Meeting patients informally outside of sessions to build rapport Therapist is more active and directive, offers more interventions and active encouragement. Therapist works flexibly and adapts session to meet needs of patients. Setting, structure and context defined at the beginning of each session with broad ground rules: Single session framework Structured music activities eg. music selection, pre-composed songs, theme based improvisation to aid accessibility of group. Therapeutic teaching not used as time too short (Priestley 1975). Goals are adjusted and prioritised to be achievable in short term– focus on coping, reduction of hospital anxiety, relaxation, stabilisation, integration, musical resources in/outside hospital, relapse prevention, interpersonal problems. Aim for continuity between services	Arnason, 1993[29] Blake & Bishop, 1994[31] Bonde et al. 2012[32] Bunt, Pike & Wren, 1987[34] Cassity & Cassity, 2006[36] Cullen, 1993[39] Davies & Richards, 1998[40] Dvorkin, 2008[43] Featherstone, 2008[47] Frederiksen & Lindvang, 1998[49] Gold et al., 2009[4] Goldberg et al, 1988[53] Goldberg, 1989[51] Grandison, 1991[54] Hara, 1999,[59] Heaney, 1992[60] Hopster, 2005[61] Jensen, 2000[63] Leite, 2008[65] Moe, Roesen & Raben, 2002[73] Morgan et al., 2011[74] Mössler et al., 2011[76] Moura-Costa & Negreiros Vena, 2011[77] Murphy, 1992[79] Odell-Miller, 1986[82] 1992[12] Priestley, 1975;[86] Shultis, 1999[95] Smith, 1975[105] Solli, 2003[106] Solli, 2006[107] Solli, 2009[109] Silverman, 2003[97] Silverman & Marcionetti, 2004[96] Silverman, 2009a[99], 2009b[100], 2010[101],2011a[102], 2011b[103] Storz, 2005[112] Strunck, 1986[114] Sullivan, 2003[115] Thomas, 2007[117] Ulrich, Houtmans & Gold, 2007[118] Wolfe, 1996[120]
Little time to fully assess patient	Little time to meet patient for preliminary meeting Limited access to patient full history and background	Therapist is clear about aims, function and method of group. Use group as part of ongoing assessment Focus upon diagnosis and description.	Goldberg, 1989[51] Nolan & Ierardi, 2007[80] Strunck, 1986[114]
Rapid discharge	No time to prepare for end of therapy Services rarely available to refer onto after discharge Low take-up of outpatient therapy	Use of receptive music selection session to decrease defence against communication. Use of closing section at end of session to reflect upon group. Establishment of good working relationships with multidisciplinary team.	Priestley, 1975[86] Arnason, 1993[29] Goldberg, 1994[52] Metzner, 2010[71] Murphy, 1992[79] Talwar et al., 2006[116]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Greater emphasis on psychopharmacological treatments	Less support/emphasis on group programme		Thomas, 2007[117]
Patient Turnover			
High turnover of patients	Unpredictable group membership Therapist has little control over group composition and size Lack of time to gain full history and risk assessment Level of group functioning can fluctuate Group may be composed of both new and returning members Difficult to obtain group cohesion Patients are often re-hospitalised	Admission/Assessment/Discharge processes combined Rapid uptake of new patients Goals set quickly Short term, achievable goals set Single session format Here and now focus Focus on strengthening resources of pt: resource-orientation Emphasis on continuity Structuring of events Activity confined to one session Increased frequency of sessions Opening and closing activities emphasised Rapport building outside of group Open groups Regular supervision and personal therapy of greater importance Co-therapist models role of member in group for new patients.	Arnason, 1993,[29] Bonde et al., 2012[32] Bunt et al., 1987[34] Cassity & Cassity, 2006[36] Davies & Richards, 1998[40] Frederiksen & Lindvang, 1998[49] Goldberg, McNiel & Binder, 1988[54] Goldberg, 1989[51] Goldberg, 1994[52] Hara, 1999[59] Hudson-Smith, 1991[62] Leite, 2008[65] Lindvang, 2005[67] Lindvang & Frederiksen, 2008[66] Lund, 2008[68] Maler, von Wietersheim, Schurbohm, & Nagel, 1994[69] Moss, 1999[75] Mössler et al., 2011[76] Murphy, 1992[79] Odell-Miller, 1992[12] Priestley, 1975[86] Shultis, 1999[95] Silverman, 2009a[99] Silverman ,2011a[102] Solli, 2003[106] Solli, 2006[107] Solli, 2009[109] Sloboda, 2008[104] Thomas, 2007[117]
Multi-disciplinary team			
Lack of communication	Splitting of teams Lack of support in referrals, limited attendance Coordination of therapy and attendance Scheduling of patient appointments at conflicting times	Staff co-therapist used Therapist makes efforts to learn about patient-staff relationships and is informed by patient's interaction with team: Triadic structures (Metzner, 2003,2010) Clear referral criteria Music therapist is present on wards as much as possible Significant events fed back to multidisciplinary team immediately after group.	Clemencic-Jones, 1998[38] Fenwick, 1970[48] Gibson et al., 2008[50] Goldberg, 1994[52] Metzner, 2003[70] Metzner, 2010[71] Odell-Miller, 1992[12] Priestley, 1975[86] Silverman, 2003[97] Silverman, 2009b[100] Solli, 2009[109] Vogt-Schaeffer, 1991[120]
Lack of understanding due to differing models/frameworks	Communication difficulties Rivalry Staff see music therapy as occupation, activity or distraction rather than psychotherapeutic intervention Staff uncertainty in when to refer Limited referrals, attendance	Therapist strives to communicate work in terms of meaning for diagnosis Opportunities offered for staff to be involved in or observe sessions Music therapist consistently reminds staff of the purpose of music therapy. Dedicated member of staff on ward to assist in music therapy session. Language is developed to communicate with multidisciplinary team – strive for collaboration and flexibility whilst acknowledging boundaries and distinct roles.	Bonde et al., 2012[32] Goldberg et al, 1988[53] Grandison, 1991[54] Hannibal, 2002[57] Hannibal et al., 2012[58] Lindvang & Frederiksen, 2008[66] Maler et al., 1994[69] Moss, 1999[75] Murphy, 1991[78] Pavlicevic, 1987[85] Reker, 1991[90] Rowland & Reed, 2011[91] Sloboda, 2008[104] Vogt-Schaeffer, 1991[120]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Lack of staff time	Limited contact with music therapist, lack of communication Difficulty finding time to meet Lack of time to do full team assessments Staff unavailable to escort patients	Handover from ward staff prior to group. Protected time for ward staff to liaise with therapists Regular clear communication with staff. Regular reminders of music therapy and who it is for. Strive for good working relationship with team. Music therapist sees patient on ward to maintain continuity	Davies & Richards, 1998[40] Gibson et al., 2008[50] Lindvang & Frederiksen, 2008[66] Strehlow & Piegler, 2011[113]
Lack of staff support	Limited referrals, attendance	Opportunities offered for staff to be involved in or observe sessions; Hospital wide music clubs/ensembles/performances Education of staff re: music therapy Mandatory attendance of groups to foster value of group	Bunt, Pike & Wren, 1987[34] De Backer, 2006[10] Fenwick, 1970[48] Frederiksen & Lindvang, 1998[66] Moss, 1999[75] Murphy, 1992[79] Priestley, 1975[86] Ragland, 1973[89] Rowland & Reed, 2011[91]
Music therapist has minimal involvement in team meetings and ward rounds, part-time posts	Visibility and acknowledgement of music therapy in group programme structure Availability to liaise with other staff		Arnason, 1993[29] Goldberg, 1994[52] Moss, 1999[75] Silverman, 2007[98]
Diversity of client group			
Range of diagnoses, levels of experience.	Difficult to perform standardised assessments Differing musical preferences Fewer women attend group Diverse range of needs	Flexibility Specific groups for different levels of functioning/need Graded activities from low → high functioning over session Range of music interventions Therapist accepts and meets patient at their preferred level of music making as a musician. Co-therapists to meet individual needs in the group. Focus upon strengths and togetherness	Arnason, 1993[29] Braswell et al, 1986[33] Dye, 1993[44] Fenwick, 1970[48] Grandison, 1991[54] Hara, 1999[59] Hannibal, 2005[57] Jensen, 2000[63] Leite, 2008[65] Lindvang & Frederiksen, 2008[66] Moe 2002[72] Moss, 1989[75] Mössler et al., 2011[76] Rowland & Reed, 2011[91] Solli, 2003[106]2006[107]2009[109] Thomas, 2007[118]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Different levels of functioning	Formulation of goals Often very low functioning Group may only function to lowest member in group Higher functioning patients devote energy to supporting lower functioning patients May fluctuate over admission	Goals must be achievable: re-educative goals rather than insight- general goals of socialisation, attention span, tolerance. Use music interventions flexibly Use structure and supportive techniques to assist lower functioning patients Therapist adapts methods to functioning level of patient. Separate groups for high/low function. Low function – greater therapist activity and direction, with musical structure, and nonverbal modelling. High function – more abstract, greater freedom of expression and reflection. Graded involvement from low level to higher level groups- require more active therapist participation at beginning. Single session structured to provide higher functioning activities towards end of group. Focused groups for specific needs. Individual music therapy offered if unable to participate in group. Therapist works with different levels –ward as community, small group, individual, patients in community. Singing and ensemble groups used in open groups to build cohesion, rhythmic exercise, live music reception Composition used with higher functioning patients. Meet with patient prior to session to assess current level of functioning.	Arnason, 1993[29] Bonde et al, 2012[32] Bunt, Pike & Wren, 1987[34] Cassity & Cassity, 1994[35] Clemencic-Jones, 1998[38] Eyre, 2011[46] Frederiksen & Lindvang, 1998[66] Gold et al., 2009[4] Goldberg et al., 1988[53] Goldberg, 1989[52] Leite, 2008[65] Lund, 2008[68] Mössler et al., 2011[76] Murphy, 1991[78],1992[79] Ragland, 1973[88] Sekeles, 1999[94] Shultis, 1999[95] Solli, 2003[106]2006[107]2008[108] 2009[109] Sullivan, 2003[115] Thomas, 2007[117] Ulrich et al, 2007[118] Wolfe, 1996[120]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Patient previous musical experiences	Anxieties of being unmusical/getting it right/knowing what to do Unfamiliarity with active music making Previous negative experiences of music therapy or music making- tend to choose adult instruments Previous musical experience can assist in making higher levels of musical contact Skill and fluency valued more by patients than therapeutic aims Fear of breaking instruments Conflict between members with/without musical experience Patients attend with musical expectations rather than wish to work on problems.	Therapist should respond to and acknowledge anxieties held by patient- therapist takes role of educator to familiarise patients to music therapy and set rules and limits. Therapist is supportive rather than goal oriented until familiar with music therapy . Therapist should acknowledge musical background of patient as a resource; pre-group interview to assess musical preferences. Therapist works with group to find music that they can play together Use of single chord tuning for easy access on guitar. Musical structure and given rules provided to encourage patients to find their own musical language. Limited range of instruments to begin, clear instructions. Wide range of music and styles needed by therapist. Musicians encouraged to proactively maintain their skills.	Ansdell & Meehan, 2010[28] Bunt, Pike & Wren, 1987[34] Cassity, 1976[37] Davies & Richards, 1999[40] De Backer & Van Camp (2003)[41] De Backer, 2006[10] Dvorkin, 2008[43] Mössler et al., 2011[76] Odell-Miller, Hughes & Westacott, 2006[84] Priestley, 1975[86] Pavlicevic, 1987[85] Reker, 1991[90] Solli, 2003[106], 2006[107],2009[109] Strunck, 1986[114] Wolfe, 1996[120]
Symptom acuity and severity			
Severity of symptoms	Ability to access or participate in music therapy may take time before able to interact in morning ability to attend session Level of medication impacts upon responses Verbal reflection is difficult- often referred as unable to access verbal psychotherapy Patients may be seen only in terms of pathology Diagnosis may be unclear May have dangerous behaviour May fluctuate over course of hospitalisation	Therapist is careful to distinguish between symptoms, patient personality and therapist's own reactions. Limited interpretation. Therapist provides music therapy at bedside or on ward. Safety taken into account- staff handover, location of group, instruments provided. Provision of taped music (precomposed or of group) if unable to attend Therapist waits for patient to stabilise on medication, and is flexible in meeting arrangements. Therapist focuses upon musical interaction and is patient led Therapist uses end of session to ground and reorientate patients back to hospital	Abs, 1983[27] Arnason, 1993[29] Eyre, 2011[46] Featherstone, 2008[47] Frederiksen & Lindvang, 1998[66] Goldberg, 1994[52] Haase & Reinhardt, 2011[55] Hannibal, 2005[57] Hudson-Smith, 1991[62] Leite, 2008[65] Metzner, 2003[70] Mossler et al., 2011[76] Murphy, 1991[78] Pavlicevic, 1987[85] Priestley, 1975[86] Reker, 1991[90] Solli, 2003[106],2006[107],2008[108],2009[109] Solli & Rolvsjord, 2009[111] Strehlow & Piegler, 2011[113] Sullivan, 2003[115] Thomas, 2007[117]
Demoralisation, hopelessness, low self-esteem, isolation, alienation	Disruption Attendance 'Fixed' sense of illness Patients may choose music that is indicative of their symptoms (eg. melancholic music in depression)	Supportive approaches favoured Focus on promoting patient resources and strengths Structuring of session Consistency of material Greater direction from therapist Clear boundaries Movement to music to activate patients.	Arnason, 1993[29] Cassity & Cassity, 2006[37] Cullen, 1993[39] Davies & Richards, 1998[40] Fenwick, 1970[48] Goldberg,1994[52] Hara, 1999[59] Hudson-Smith, 1991[62] Priestley, 1975[86] Rolvsjord, 2010[13] Silverman, 2007[98] Solli, 2003,2006,2008,2009[106-9] Solli & Rolvsjord, 2009[110] Strunck, 1986[114]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Positive symptoms of psychosis	May exacerbate symptoms May distress other group members Rigid and stereotyped play – difficult to form musical relationship with therapist.	GIM contraindicated or adapted - goals limited to short term . Concrete focus on musical interaction – greater use of musical structure and ground rules, limited interpretation. Polarisation technique with high structure (Jensen, 2002). Factors of music therapy for recovery: motivation, structure, emotional expression, social participation (Solli & Rolvsjord, 2009). Separate group offered for acutely psychotic patients or individual improvisational music therapy. Songwriting used to communicate inner experiences.	Arnason, 1993[29] de Backer, 2006[10] Goldberg, 1989[51] Goldberg, 1994[52] Leite, 2008[65] Moe, 2002[72] Moe et al., 2000[73] Jensen, 2002[64] Seitz, 2002[93] Solli & Rolvsjord, 2009[110]
Low concentration/ attention span	Patients unable to focus for long Concrete thinking	Therapist keeps music pieces short to maintain focus. Simple musical structures. Use music to organise thought- concrete musical experiences such as singing, ensemble playing and structured songwriting.	Dvorkin, 2008[43] Nolan & Ierardi, 2007[80] Priestley, 1975[86] Reker, 1991[90] Solli, 2003[106],2006[107] Solli & Rolvsjord, 2009[110]
Lack of motivation to attend or participate	Attendance Potential for coercion	Focus on engagement of patients Acceptance of group at own level of development Structured 3 level assessment focusing upon 1. structures on given rule, 2. inter-relationship in music, 3. symbolic/referential rules.	Cullen, 1993[39] Hannibal, 2002[56], 2005[57] Lindvang & Frederiksen, 2008[66] Moura-Costa, 2011[77]
Low psychological defences	Current approaches may not be appropriate	GIM process modified- shorter structured imagery, supportive music (soft tones, harmonies, predictable structure, pleasant tempo). Concurrent drawing/writing. Patients viewed as individuals within a group setting.	Goldberg, 1994[52] Moe, 2002[72]
Anxiety, insecurity and uncertainty	Need for reassurance Attendance- difficulty to stay in group for entire session Occur particularly at beginning of therapy, particularly if a new experience Therapeutic relationship is fragile	Consistency of material Clear structure Therapist is informed by counter-transference but does not interpret. Reassurance that all are 'good enough' to play. If unable to access group , individual music therapy or music for relaxation is offered.	Arnason, 1993[29] Cullen, 1993[39] Hara, 1999[59] Hudson-Smith, 1991[62] Leite, 2008[65] Mössler, Fuchs, Heldal et al., 2011,[76] Odell-Miller, 1986[82] Reker, 1991[90] Shultis, 1999[95] Solli, 2003[107], 2006[108],2009[110] Stige, 2011[111]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
High levels of anger, impulsivity and disorganisation	Disruption Safety of group Ability of patient to plan ahead Ability to stay and commit to group Ability to reflect upon behaviour Initial difficulty in playing rhythmically	Rhythmic activities to release anger and tension. Therapist makes aims of session clear, and provides clear instructions. Avante garde music listening used to evoke and promote discussion with angry patients. Movement activities to contain mania Clear boundaries- may be reinforced musically Focus on here and now. Therapist waits until in more rational state to feedback behaviour and impact on group. Behavioural contract	Goldberg, 1989[51] Hara, 1999[59] Jensen, 2000[63] Leite, 2008[65] Lindvang & Frederikson, 2008[66] Morgan et al., 2011[74] Murphy, 1991[78] Moss, 1999[75] Priestley, 1975[86] Silverman, 2003[97] Solli, 2006[107] Wolfe, 2006[120]
Insight into illness	Attendance and engagement Denial of need for treatment Patients not receptive to interpretative interventions Intellectualisation of music	Opportunities to reflect may aid increase in insight Encouragement of affective responses to music. Traditional psychodynamic approaches not appropriate	Arnason 1993[29] Cullen, 1993[39] Hara, 1999[59] Lindvang & Frederikson, 2008[66] Sekeles, 1999[94] Solli, 2006[107]
Limited social and communication skills	Patients have difficulty relating to one another in group. Patients have difficulty making links between music making and behaviour. May be difficult to stimulate social interaction Patient may dominate group Sensorial play in psychosis (de Backer, 2006) May be mute	Core aim of music therapy to develop social awareness and interaction Structure and eye contact to begin communication Clear boundaries. Co-therapist to be available to individual members throughout session. Therapist asks direct open-ended questions. Therapist aims to move to playing together using gradual introduction of musical melody, structure and form. Know and respect limitations of patient (de Backer, 2006) Communication with family/friends to understand patient's musical preferences. Different groups for differing needs/levels of functioning.	Cullen, 1993[39] Davies & Richards, 1998[40] De Backer, 2006[10] Eyre, 2011[46] Goldberg, 1994[52] Metzner, 2010[71] Moura-Costa, 2011[77] Murphy, 1992[79] Priestley, 1975[86] Silverman, 2009a[100] Solli, 2003,2006,2008,2009[107-109] Solli & Rolvsjord, 2009[110] Ulrich et al., 2007[118]
Hospitalisation			
Admission may be involuntary	Patients unwilling to accept treatment Patients are disempowered Patients may attempt to show adjusted behaviour or disclose feelings in hope of early discharge Patients may abscond or threaten to leave	Aim to empower patients through collaboration and recognition of patient's own self-knowledge Team communication vital for ongoing support of patient Music therapy used as a means of encouraging patient to stay	Arnason, 1993[29] Haase & Reinhardt, 2011[35] Murphy, 1991[78] Nolan, 1991[81] Rolvsjord, 2010[13] Solli, 2003[106],2006[107]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Impact of hospitalisation- disruptive, frightening or punitive	Focus on immediate basic needs-initial themes of sadness, isolation, anger Patients hold concrete concerns eg. accommodation/leave Focus upon discharge and hospitalisation in session themes Therapists may be viewed as a punitive authority figure Repeat admissions Uptake of outpatient appointments is rare May use music to avoid issues	Therapist provides opportunity to express feeling states in music and names them but does not interpret. Opportunities to reflect upon issues around hospitalisation or events leading up to hospitalisation within music therapy Aims to build defences and boundaries rather than direct symptom reduction- build on resources and promote hope. May need to have opportunity to relax and dissipate anxiety Past experiences with service and staff should be taken into account Therapist arranges home visit to finish therapy	Ansdell & Meehan, 2010[28] Arnason, 1993[29] Baumgarten & Mahns, 1986[30] Clemencic-Jones, 1996[38] Cullen, 1993[39] Davies & Richards, 1998[40] De Backer, 2006[10] Dvorkin, 1998[43] Eyre, 2011[46] Goldberg et al, 1988[53] Goldberg, 1994[52] Hara, 1999[59] Hopster, 2005[61] Jensen, 2002[64] Leite, 2008[65] Mössler et al., 2011[76] Nolan & Ierardi, 2007[80] Solli, 2006[107] Thomas, 2007[117] Priestley 1975[86] Reker, 1991[90] Talwar et al., 2006[116] Thomas, 2007[117] Vogt-Schaeffer, 1991[119]
Limited freedom	Focus on authority/resentment Coercion- may have little choice in coming to music therapy Willingness to enter into therapy cannot be assumed- difficult to build therapeutic alliance	Important to offer patients a choice within music therapy Voluntary attendance Therapist must accept some patients may not be ready or willing to accept therapy	Abs, 1983[27] Arnason, 1993[29] Goldberg, 1994[52] Pavlicevic, 1987[85] Procter, 2002[87] Solli, 2003[106], 2006[107]
Discharge anxiety	Attempts to split team	Strive to communicate fully with team and forge strong communicative relationships with other staff Discussion of feelings regarding discharge forms part of session Aim to facilitate return to community	Hudson-Smith, 1991[62] Silverman, 2009a[99] Wolfe, 1996[120]
Previous patient experiences of music therapy			
Patient understanding of music therapy	May have little knowledge of therapeutic process May not understand how music therapy might help mental health problems Scepticism towards another therapy	Time to provide patient with information on music therapy Care in explaining music therapy Therapist gives patient time to think about engagement and does not force participation . Preliminary meetings Therapist negotiates with patient how they will work together Structured assessment used as an introductory course to familiarise patient.	Haase & Reinhardt, 2011[35] Hannibal, 2002[56] Hara, 1999[59] Mössler et al., 2011[76] Pavlicevic, 1987[85] Rolvjsord, 2010[13] Stige, 2011[111] Storz, 2005[112] Strunck, 1986[114]
Patient expectations of music therapy	Patients have musical expectations rather than therapeutic expectations May fear failure or pressure to accomplish May fear being 'read' in music by therapist May have idealised view of music and not wish to think about problems within this perspective Desire for harmony Desire to learn an instrument or improve musical skills If does not fit expectations → may not engage	Therapist meets prior to group to clarify expectations – use of contract. Provide an indication of how patient understands and perceives music therapy Therapist is firm, decisive and open Therapist focuses upon musical interests and resources rather than problems Care with musicians – mindful this may have contributed to breakdown Graded approach to participation to lessen anxiety	Arnason, 1993[29] Baumgarten & Mahns, 1986[30] De Backer, 2006[10] Exner, 1998[45] Fenwick, 1970[48] Lindvang & Frederiksen, 2008[66] Mössler et al., 2011[76] Priestley, 1975[87] Solli, 2003[107], 2006[108] Strunck, 1986[114] Wolfe, 1996[120]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Follow-on from previous hospitalisation	Patient may return at a different point in therapy process eg. more able to explore deeper issues Those who attended previously are able to engage earlier on in readmission Music therapy may have been elsewhere	Use knowledge gleaned from previous admission to inform approach	Hudson-Smith, 1991[62] Metzner, 2010[71] Mossler et al., 2006[76] Reker, 1991[90] Rolvjsord, 2010[13] Silverman, 2009a[99], 2009b[100], 2011b[103] Solli, 2008[108]
Engagement in Music Therapy			
Symptom severity	Patient may feel unable to attend Difficulty engaging patients in session Patients may not be able to stay for duration, arrive late or leave early Range of needs of patients	Primary aim to assess if patient can commit to therapy- 2-3 sessions offered to come to joint decision Ward member encourages attendance Patient offered choice of groups but once choice is made, attendance is mandatory Therapist is highly active, non-directive, patient led, flexible and provides loose structure. Therapist encourages participation in whatever way is possible Therapist works with patients as they approach on ward Therapist invites each patient on ward personally to group Therapists remind patients of group and purpose at weekly ward meeting Emphasise listening is ok as well as active play Voluntary attendance- Patients free to come and go in session Treatment is individualised to meet each patient's needs Range of activities are offered to maximise engagement and meet individual needs	Arnason, 1993[29] Clemencic-Jones, 1998[38] Frederiksen & Lindvang, 1998[49] Hannibal, 2002[56] Hudson-Smith, 1991[62] Lindvang & Frederiksen, 2008[66] Metzner, 2003[70] Morgan et al., 2011[74] Mössler et al., 2011[76] Moura-Costa et al., 2011[77] Murphy, 1992[79] Pavlicevic, 1987[85] Priestley, 1975[86] Ragland, 1973[88] Rolvsjord, 2010[13] Silverman, 2009a[99], 2010[101] Solli 2003[106], 2006[107], 2009[109] Strunck, 1986[114] Sullivan, 2003[115] Wolfe, 2006[120]
Difficulty in beginning active music making	Patients fearful/anxious/uncertain of improvising Passive patients in group Patient feels under pressure to begin Confrontational music leads to disengagement	Therapist provides clarity of goals and purpose at beginning of each session Therapist is encouraging. Minimal demands placed on patients eg. sit and look at instrument Therapist begins by suggesting themes or means of control (eg. follow a pulse) within improvisation then gradually encourages group to take the lead. Must provide supportive structure and active (sometimes directive) guiding Well known songs used to build confidence, then improvisation is built into these Relaxation tape made to address sleep problem Therapist works with patient to explore problem and find ways of lessening pressure Alliance can be built quickly in a few sessions	Baumgarten & Mahns, 1986[30] De Backer & Van Camp, 2003[41] De Backer, 2006[10] Goldberg, 1994[52] Hannibal et al, 2012[58] Jensen, 2000[63], 2002[64] Leite, 2008[65] Lindvang & Frederiksen, 2008[66] Ready, 2011[89] Sekeles, 1999[94] Silverman, 2003[97], 2009[99] Sloboda, 2008[104] Solli, 2003[106], 2006[107], 2009[109] Stige, 2011[111]

Table S6. Analysis of key features of music therapy work in acute psychiatric inpatient settings			
Feature	**Impact**	**Approaches taken**	**Papers**
Lack of group stability impacts upon engagement	Member of staff leaving group impacted upon engagement Fluctuating attendance due to external demands Difficult to establish rapport quickly	Therapist tries to prepare for ending, and acknowledges absence afterwards. Informal meeting with patients before group, contact with patients after session Closed groups offer greater stability Greater frequency increases opportunities to attend and build cohesion Familiarity with patient musical preferences assists in building rapport	Baumgarten & Mahns, 1986[30] Featherstone, 2008[47] Moe, 2002[73] Silverman, 2009a[99], 2011a[102] Thomas, 2007[117]
Patient may not be ready to access groups	Patient is too disruptive or anxious for group Schizophrenia, female gender and less than 20 sessions associated with drop-out from treatment Modified GIM requires a level of trust and relaxation	Individual music therapy offered	Blake & Bishop, 1994[31] Haase & Reinhardt, 2011[55] Hannibal, 2005[57] Solli, 2009[109]
Patient unwilling to attend	Resistant to music therapy Patient presents negative comments to group or is disruptive Patient may be ambivalent about returning – wish to be discharged Patient may be coerced or attend to 'play the system' May reject music therapy but return at a later point	Therapist accepts and supports all musical expressions and level of group development. Uses resistance to build relationships and allow for discussion of negative feelings. Therapist provides clear temporal boundaries Freedom and flexibility offered within session to attend/participate or not Use of musical boundaries rather than verbal boundaries. Token economy system as part of overall hospital framework Rely on staff support and encouragement to attend	Arnason, 1993[29] Cullen, 1993[39] Grandison, 1991[54] Hara, 1999[59] Jensen, 2000[63] Moura-Costa et al, 2011[77] Nolan, 1991[81] Procter, 2002[87] Silverman & Marcionetti, 2004[96] Solli, 2003[106], 2006[107], 2009[109] Strunck, 1986[114]

Supplementary Information S7: Summary of clinical outcome studies in acute adult psychiatric settings.

Table S7. Clinical outcome studies in acute adult psychiatric settings

Paper Country	Design and Data Collection	Number of Participants (male), diagnosis				Mean Age (yrs)	Outcomes	Measures	Summary of intervention		N sessions (S), frequency duration	Drop-outs	Bias risk QS%
		Diagnosis	Total	E	C				Experimental (E)	Control (C)			
Cassity, 1976[37]	Controlled study	12 (0)				E: 25 C :27	Group cohesion	SQ	Guitar tuition with performance plus 6 hours daily community treatment program	6 hours daily community treatment program	S = 10 Daily over 2wks	2	M 41
USA	Pre-MT, Post-MT (2 wks)	Schizophrenia	8	4	4		Peer acceptance						
		Hyperchondrial neurosis	1	1	0								
		Depressive neurosis	1	1	0		IP relations						
		Passive Dependent	1	1	0								
		Hysterical neurosis	1	0	1								

Table S7. Clinical outcome studies in acute adult psychiatric settings

Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Gold et al., 2013	Multi-centre RCT Pre-MT 1 month fu 3 month fu 9 month fu	144 (75) Inpatient 102 F1 Substance abuse 6 F2 Psychosis 61 F3 Affective 44 F4 Neurotic 16 F5 Behav./Physical 3 F6 Personality dis. 14	72 55 31 26	72 47 30 18	34 E:34 C:34	Negative symptoms General symptoms Functioning Clinical global impressions Activity/ engagement in music Social avoidance through music Motivation for change Motivation Self-efficacy Self-esteem Vitality Affect regulation Relational competencies Social relationships (self-report) (observed)	SANS BSI-18 GAF CGI-S IIM A&E IIM SA URICA SANS GSE RSE SF-36 SANS IIP-32 Q-LES-Q SANS	Individual music therapy. Resource oriented manual.	Treatment as usual.	S = 26 Mean = 17.5 2pw over 3 months.	MT:20 TAU:24	L 96

Table S7. Clinical outcome studies in acute adult psychiatric settings

Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Moe et al., 2000[73] NL	Pre- Post Pre-MT, Post-MT (6 mths)	9 (7) Schizotypal 5 Schizophrenia 3 Schizoaffective 1			29	Global functioning	GAF	Modified Guided Imagery in Music	N/A	S=23-32 1pw over 6 months.	0	M 59
Morgan et al., 2011[74] Australia	RCT Pre-MT, Post-MT (2wks), f/u (1 mth)	60* Completed: 49 (23) Schizophrenia: 25 Schizoaffective: 12 Bipolar : 12 *Analysis only on completed	11 6 8	14 6 4	E: 35 C: 37	Anxiety, depression, stress Patient ward behaviour Depression Psychiatric symptoms	DASS-21 NOSIE-30 Calgary BPRS	Individual music therapy using improvisation or songwriting.	Sitting with therapist listening to a pre-recorded CD playing relaxing nature sounds.	S=4 2pw over 2 weeks.	11 E:5 C:6	L 85
Mössler et al., 2012 Austria, Australia, Norway	Observational Pre-MT Intermedia te Post-MT	31 (19) Inpatients 29 F1 Substance abuse 1 F2 Psychosis 14 F3 Affective 8 F4 Neurotic 2 F6 Personality dis. 6			37	Self-esteem Self-efficacy Interpersonal problems Actual social relationships Interest in music	RSE GPSE IIP-32 Q-LES-Q IIM	Individual music therapy following resource-oriented manual	na	S=26 Mean=19 2pw over 3 months	9	L 82

Table S7. Clinical outcome studies in acute adult psychiatric settings

Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Odell-Miller et al., 2006[84] UK	RCT Pre-MT, Mid (3 mths), Post-MT (6mths) PQRST: Monthly.	45 (10) Indiv.MT= 2 Group MT= 1 Schizophrenia 9 Bipolar 6 Depression 3 Residual Depression 3 Schizoaffective 2 Dementia 1 Eating Disorder 1	nr	nr	37	Anxiety and depression Issues of importance to patient Clinical Outcomes Life skills	HADS PQRST CORE LSP	Arts therapies- Individual AT Group AT Individual DMT Individual MT* Group MT* Plus standard psychiatric support. *MT: improvisation	Standard psychiatric support.	Frequency NR 6 months	20 E:14 C:6	M 59
Riley, 2013 USA	Experimental Post-session only (single session)	45 (26) E: Songwriting: 15 (8) C1 Discussion: 15 (7) C2:General MT: 15 (11) Mixed diagnoses (nr)			E: 40 C1:35 C2:37	Post-session behaviour; Patient enjoyment; Would do again; Helpfulness; Will use what was learned	Behaviour observation Researcher designed 5-point Likert scale response	Opening song, discussion about behaviour, songwriting based on discussion. Call and response singing. Good bye song at end.	C1: Icebreaker followed by discussion as in experimental condition. C2: General music therapy group without discussion (hello song, sing-along, lyric analysis, goodbye song).	S = 1 Single session	ns	M 63

Table S7. Clinical outcome studies in acute adult psychiatric settings											
Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Silverman & Leonard, 2013 USA	Experimental Post-MT	Study 1: 16 (5) Study 2: 18 (9) Mixed diagnoses (nr)			38 31	Study 1:Attendance Study 2: Durational attendance Study 1&2: Treatment perceptions: Helpfulness, enjoyment, comfort.	% of patients attending % time spent in session Researcher designed 7 point Likert scale.	Active music therapy sessions over 5 days: 1. Individual game 2. Lyric analysis 3. Group songwriting 4. Facilitated percussion 5. Singalong and discussion	Passive music listening over 5 days. Group listens to preferred music via ipod.	S=5 5pw, over 1 week.		M 67
Silverman & Marcionetti, 2004[96] USA	Pre- Post Pre-MT, Post-MT (single session)	189 Gender: nr 1. 48 2. 37 3. 34 4. 35 5. 35 Mixed diagnoses: nr Schizophrenia Schizoaffective Bipolar Major depressive disorder Psychosis			nr	Self-reported Mood; Psychiatric symptoms; Feelings re: hospital; Self-esteem; Self-expression; Knowledge of coping skills; Managing anger; Appraisal MT	Researcher designed 10pt VAS	5 single interventions: 1. Group drumming 2. Music games 3. Lyric analysis 4. Songwriting 5. Music listening	N/A	S=1 Single session 2pw over 3 weeks. Each offered 8 times.	0	M 37

Table S7. Clinical outcome studies in acute adult psychiatric settings											
Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Silverman Rosenow, 2013 USA	Observational Pre-Post	41 (20) Mixed diagnoses (nr)			41.90	Mood Treatment perceptions: Helpfulness, enjoyment, attend again, recommend to another.	Quick mood scale Researcher designed 7 point Likert scale.	10 recreational group sessions: 6 music games 1 structured improvisation 1 art and music 1 lyric completion		S=30 Each intervention used 3 times. 2pw over 15 weeks.	Bet-ween 1-3 did not com-plete an item	L 74
Silverman, 2009a[100] USA	RCT Post-MT (single session)	105 Gender NR Mixed diagnoses: NR Bipolar Major depressive disorder Substance abuse Schizoaffective Schizophrenia			E: 37 C: 41	Social Functioning Patient appraisal Satisfaction with life Psycho-educational knowledge Therapist and patient verbalising in group	Researcher designed scales: 1= worse 7=better Helpful Enjoyment Comfort SWLS KIRI Observer rated	Opening song; Lyric analysis focusing on relapse prevention and management of mental illness	Scripted verbal psychoeducation with opening activity	S=1 Single session 2pw over 5 months. 28 of 32 sessions attended. E =15 sessions C=13 sessions	 App: 1 SWLS 1	L 70

Table S7. Clinical outcome studies in acute adult psychiatric settings												
Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis	Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Silverman, 2011a[102] USA	2 x RCTs Study 1: Pre-MT, 1 month f/u Study 2: Pre-MT, Post-MT (single session)	Study 1: 30 Study 2: 29 Gender: NR Mixed diagnoses: Bipolar Major depressive disorder Schizoaffective Substance abuse Schizophrenia				NR	Knowledge of coping skills	PCI	Songwriting, lyric analysis and music games to address psychoeducational objectives such as coping skills, relapse prevention, leisure skills, mental health knowledge.	Psychoeducation objectives such as coping skills, relapse prevention, leisure skills, mental health knowledge without music.	Study 1: S=3 30mins, 3pw over 4 weeks. Study 2: S=1 45mins single session.	Study 1:21 E: 11 C: 10 Study 2: 0	M 63
Silverman, 2011b[103] USA	RCT Post-MT (single session)	89 (32) Mixed diagnoses: NR				E: 37 C: 40	Coping skills Enjoyment Therapist and Patient Working alliance	COPE Researcher designed scale 1=Low 7=High. HAQ-II	Opening song to state name and how feeling; Songwriting concerning coping skills using 12-bar blues.	Non-music psychoeducation group focused on coping skills.	S=1 Single session 1pw over 4 months.	HAQ: 19	M 63

Table S7. Clinical outcome studies in acute adult psychiatric settings												
Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Silverman, 2013a USA	Cluster RCT Post-MT Control, pre-test	83 (40) Anxiety disorder 1 Bipolar disorder 25 Major depressive 33 PTSD 1 Schizoaffective 0 Schizophrenia 4 Psychosis 2 No response 17			38	Stigma	Stigma scale	12 bar blues opening song. Educational dialogue on stigma. Group songwriting 'the stigma blues'.	C1: Stigma discussion as in (E) without songwriting/music. C2: Rock and roll bingo, music discussion.	S=1 Single session outcomes 1pw over 24 weeks. Intervention randomly allocated.	5 did not complete measures	L 70
Silverman, 2013b USA	Cluster RCT Post-MT	105 (44) E: Psychoeducational songwriting C1: Psychoeducaction C2: Group music bingo Mixed diagnoses (nr)	33	32 40	34.63	Depression Quality of life Treatment perceptions: Helpfulness, enjoyment, comfort	BDI-II QLESQSF Researcher designed 7 point Likert scale.	Psychoeducational songwriting group.	C1: Psycho-educational group without music C2: Group music bingo game	S=1 Single session outcome.	Non-completion of item E:3 C1: 6 C2: 8	L 74

Table S7. Clinical outcome studies in acute adult psychiatric settings												
Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Tague, 2012 USA	Observational Pre-Post	66 (42) Drummming/discussion General group MT Non-music discussion Mixed diagnoses (nr)	 22	 22 22		Mood Transfer of behaviours On-task and interaction behaviours	VAMS 24hr hospital observation sheet. Video analysis	MT drumming and discussion: Improvisational drum circle. Ice breaker, rhythm passing game, call and response, group facilitation, instrument sharing.	C1: General MT: Therapist led with guitar, no instruments for ppts. Hello song, group singing, music listening, lyric discussion, goodbye song. C2: Non-music discussion group: learning and discussion, small group work, role play.	S=1 1pw over 24 weeks.		M 59
Talwar et al., 2006[116] UK	RCT Pre-MT, Post-MT (3 mths)	81 (60) Schizophrenia	33	48	E:35 C:39	Positive and negative symptoms Global Functioning Patient satisfaction	PANSS GAF CSQ	Individual music therapy using improvisation and talking to guide, interpret or enhance musical experience plus routine standard care.	Routine standard care including nursing care and access to occupational, social and other inpatient activities.	S=12 1pw over 12 weeks.	12 E:5 C:7	L 89

Table S7. Clinical outcome studies in acute adult psychiatric settings

Paper Country	Design and Data Collection	Number of Participants (male), diagnosis Diagnosis	Total	E	C	Mean Age (yrs)	Outcomes	Measures	Summary of intervention Experimental (E)	Control (C)	N sessions (S), frequency duration	Drop-outs	Bias risk QS%
Ulrich et al., 2007[118] Germany	RCT Pre-MT, post-MT	37 (20) Schizophrenia: Schizoaffective: Schizotypal: Drug induced psychosis: Depression with psychosis	27 4 1 3 2	16 3 0 2 0	11 1 1 1 2	E:36 C:40	Negative symptoms IP contact: Nurse & Patient rated Quality of life	SANS GT subscales 1, 5 and 6 SPG	Structured group sessions using mainly active music making on rhythm instruments; structured improvisation, playing/singing pre-composed music, verbal reflection plus standard treatment.	Standard treatment.	S=7-8 1-2 pw over 8 months. Average n sessions received =7.5 (sd 3.5)	SANS: E:5 C:5 GT-N E:0 C:3 GT-P E:4 C:3 SPG: E:4 C:2	L 82

BPRS- Brief Psychiatric Rating Scale, Calgary- Calgary Interview Guide for Depression, COPE- Brief COPE Inventory, CORE- Clinical Outcomes in Routine Evaluation, CSQ- Client Satisfaction Questionnaire, DASS-21- Depression, Anxiety and Stress Scale, GAF- Global Assessment of Functioning Scale, GT- Gießentest , HADS- Hospital Anxiety and Depression Scale, HAQ-II- Helping Alliance Questionnaire, KIRI- Knowledge of Illness and Resources Inventory, LSP- Life Skills Profile, NOSIE-30- Nurses' Observation Scale for Inpatient Evaluation, PANSS- Positive and Negative Symptoms Scale, PCI- Proactive Coping Inventory, PQRST- Personal Questionnaire Rapid Scaling Technique, SANS- Scale for the Assessment of Negative Symptoms, SPG- Scales for Mental Health, SWLS- Satisfaction with Life Scale, SQ- Sociometric Questionnaire, VAS- Visual Analogue Scale

AT- Art Therapy, DMT- Dance Movement Therapy, MT, Music Therapy, nr- Not reported, N/A- Not applicable, pw- per week, IP relationship- Interpersonal Relationships

Supplementary Information S8. Risk of bias of included clinical outcome studies

Table S8. Risk of bias Assessment	**Study:**	Cassity 1976 [37]	Odell-Miller et al 2006[84]	Silverman & Marcionetti 2004[96]	Silverman 2009a[100]	Silverman 2011a[102]	Silverman 2011b[103]	Talwar et al. 2006[116]	Ulrich et al 2007[118]	Moe et al 2000[73]	Morgan, et al 2011[74]
Experimental Study Design		Controlled study	RCT	Pre-Post	Controlled study	Pilot RCT	2 Pilot RCTs	RCT	RCT	Pre-Post	RCT
Score /27 (%) (Downs & Black, 1998)		11 (40.7)	16 (59.3%)	10 (37%)	19 (70.4%)	17 (62.9%)	17 (62.9%)	24 (88.9%)	22 (81.5%)	16 (59.3%)	23 (85.2%)
Reporting Clear description of-	Hypothesis/ aim/ objective	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Main outcomes to be measured	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Patient characteristics	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	Yes	Yes	Yes	Yes
	Intervention	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Distribution of principal confounders	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes
	Main findings	No data for subject rank	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table S8. Risk of bias Assessment	**Study:**	Cassity 1976 [37]	Odell-Miller et al 2006[84]	Silverman & Marcionetti 2004[96]	Silverman 2009a[100]	Silverman 2011a[102]	Silverman 2011b[103]	Talwar et al. 2006[116]	Ulrich et al 2007[118]	Moe et al 2000[73]	Morgan, et al 2011[74]
	Estimates of random variability in data for main outcomes	Not reported	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	All adverse events	No	No	No	No	No	No	No	No	Yes	No
	Characteristics of patients lost to followup	Not reported	Yes	Not reported	Not reported	Yes	Yes	Yes	Yes	Yes	Yes
	Actual probability values reported	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Not reported	Yes
External Validity	Subjects approached representative of entire population	Unable to determine	Yes	Unable to determine	Yes	Unable to determine	Yes	Yes	Unable to determine	Unable to determine	Yes
	Participants representative of entire population	Unable to determine	Unable to determine	Unable to determine	Unable to determine	Unable to determine	Unable to determine	Yes	Unable to determine	Unable to determine	Yes

Table S8. Risk of bias Assessment	**Study:**	Cassity 1976 [37]	Odell-Miller et al 2006[84]	Silverman & Marcionetti 2004[96]	Silverman 2009a[100]	Silverman 2011a[102]	Silverman 2011b[103]	Talwar et al. 2006[116]	Ulrich et al 2007[118]	Moe et al 2000[73]	Morgan, et al 2011[74]
	Staff and facilities representative of treatment usually received	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Internal validity (bias)	Subjects blinded to intervention	No	No	No	No	No	No	No	No	No	Yes
	Measurers of main outcomes blinded	No	Yes	No	No	No	No	Yes	Yes	No	Yes
	Unplanned analyses reported	No unplanned analyses	Yes	No unplanned analyses	Yes	No unplanned analyses	Yes	No unplanned analyses	No unplanned analyses	No unplanned analyses	No unplanned analyses
	Adjustment of different lengths of follow-up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Yes	Same time period for follow up	Same time period for follow up	Same time period for follow up
	Appropriate statistical tests to assess main outcomes	Yes	Yes	Unable to determine	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table S8. Risk of bias Assessment	**Study:**	Cassity 1976 [37]	Odell-Miller et al 2006[84]	Silverman & Marcionetti 2004[96]	Silverman 2009a[100]	Silverman 2011a[102]	Silverman 2011b[103]	Talwar et al. 2006[116]	Ulrich et al 2007[118]	Moe et al 2000[73]	Morgan, et al 2011[74]
	Reliable compliance with intervention	Unable to determine	Yes	Yes	Yes	Unable to determine	Yes	Yes	Yes	Yes	Unable to determine
	Accurate outcome measures (valid and reliable)	Yes	Yes	Yes	Yes	Yes	Main outcome valid and reliable. Additional measures not outlined in method.	Yes	Yes	Yes	Yes
Internal validity (confounds)	Recruitment of intervention and control from same population	Yes	Yes	No control group	Yes	Yes	Yes	Yes	Yes	No control group	Yes
	Recruitment over same period of time for control and intervention	Yes	Yes	No control group	Yes	Yes	Yes	Yes	Yes	No control group	No- quasi random by month

Table S8. Risk of bias Assessment	**Study:**	Cassity 1976 [37]	Odell-Miller et al 2006[84]	Silverman & Marcionetti 2004[96]	Silverman 2009a[100]	Silverman 2011a[102]	Silverman 2011b[103]	Talwar et al. 2006[116]	Ulrich et al 2007[118]	Moe et al 2000[73]	Morgan, et al 2011[74]
	Randomisation to groups	Unable to determine	No- alternate allocation	No	Yes	No- quasi random by intervention	Study 1- unable to determine; Study 2- randomised by session	Yes- block randomised stratified for site, derived from computer program	Yes- randomised to intervention or control by throw of dice	Not randomised	No- quasi random: 1 month intervention then 1 month control
	Concealment of randomisation	Unable to determine	No	Not randomised	No	No	No	Concealed from staff, not patients	Concealed from staff, not patients	Not randomised	Yes
	Adjustment for confounding	No	No	No	Yes	No statistically significant differences between groups regarding number of times in hospital or age.	Yes	Yes	Yes	No	No significant differences between groups

Table S8. Risk of bias Assessment	**Study:**	Cassity 1976 [37]	Odell-Miller et al 2006[84]	Silverman & Marcionetti 2004[96]	Silverman 2009a[100]	Silverman 2011a[102]	Silverman 2011b[103]	Talwar et al. 2006[116]	Ulrich et al 2007[118]	Moe et al 2000[73]	Morgan, et al 2011[74]
	Loss of patients to follow up taken into account	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table S8. Risk of bias Assessment	**Study:**	Gold et al., 2013	Mössler et al., 2012	Riley, 2013	Silverman, 2013a	Silverman, 2013b	Silverman & Leonard, 2012	Silverman & Rosenow, 2013	Tague, 2012
Experimental Study Design		Multicentre RCT	Pre-Post Process	Post test	Randomised 3 group	Randomised 3 group	Post test	Post test	Pre-Post
Score /27 (%) (Downs & Black, 1998)		26 (96.3%)	22 (81.5%)	17 (63.0%)	19 (70.4%)	20 (74.1%)	18 (66.7%)	20 (74.1%)	16 (59.3%)
Reporting: Clear description of-	Hypothesis/ aim/ objective	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Main outcomes to be measured	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Patient characteristics	Yes	Yes	Yes	Yes	No explicit exclusion criteria	No explicit exclusion criteria	No explicit exclusion criteria	Yes
	Intervention	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table S8. Risk of bias Assessment	**Study:**	Gold et al., 2013	Mössler et al., 2012	Riley, 2013	Silverman, 2013a	Silverman, 2013b	Silverman & Leonard, 2012	Silverman & Rosenow, 2013	Tague, 2012
	Distribution of principal confounders	Yes	Yes	Age and gender provided	Yes	Yes	Individual data provided	Yes	Numbers of gender and unit only
	Main findings	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Estimates of random variability in data for main outcomes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	All adverse events	Yes	No	No	No	No	No	No	No
	Characteristics of patients lost to followup	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Actual probability values reported	Yes	Yes	No	No	No	No	Yes	No
External Validity	Subjects approached representative of entire population	Yes	Yes	Yes	Yes	Unable to determine	Yes	Yes	Yes

Table S8. Risk of bias Assessment	**Study:**	Gold et al., 2013	Mössler et al., 2012	Riley, 2013	Silverman, 2013a	Silverman, 2013b	Silverman & Leonard, 2012	Silverman & Rosenow, 2013	Tague, 2012
	Participants representative of entire population	Yes	Yes	Unable to determine	Yes	Yes	Yes	Unable to determine	Unable to determine
	Staff and facilities representative of treatment usually received	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Internal validity (bias)	Subjects blinded to intervention	No	No	No	Unable to determine	Unable to determine	No	No	No
	Measurers of main outcomes blinded	Yes	No	Yes	Unable to determine	Unable to determine	No	No	No
	Unplanned analyses reported	Yes	No unplanned analysis	No unplanned analysis	No unplanned analysis	No unplanned analysis	No unplanned analysis	No unplanned analysis	No unplanned analysis
	Adjustment of different lengths of follow-up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up	Same time period for follow up

Table S8. Risk of bias Assessment	**Study:**	Gold et al., 2013	Mössler et al., 2012	Riley, 2013	Silverman, 2013a	Silverman, 2013b	Silverman & Leonard, 2012	Silverman & Rosenow, 2013	Tague, 2012
	Appropriate statistical tests to assess main outcomes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Reliable compliance with intervention	Yes	Yes	Unable to determine	Unable to determine	Unable to determine	Yes	Unable to determine	Unable to determine
	Accurate outcome measures (valid and reliable)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Internal validity (confounds)	Recruitment of intervention and control from same population	Yes	No control group	Yes	Yes	Yes	Yes	Yes	Yes
	Recruitment over same period of time for control and intervention	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Randomisation	Yes	Not	Not	Randomised	Randomised	Not	Randomised	Not

Table S8. Risk of bias Assessment	**Study:**	Gold et al., 2013	Mössler et al., 2012	Riley, 2013	Silverman, 2013a	Silverman, 2013b	Silverman & Leonard, 2012	Silverman & Rosenow, 2013	Tague, 2012
	to groups		randomised	randomised	by intervention	by intervention	randomised	by intervention	randomised
	Concealment of randomisation	No	No	No	No	No	No	No	No
	Adjustment for confounding	No significant differences between groups	Yes	No	No statistically significant differences between	No statistically significant differences between groups	No	No	No
	Loss of patients to follow up taken into acount	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Appendix B

Chapter 5- supporting information

Development of Experiences of Music Therapy Questionnaire

Document B1) Letter of ethical approval

Document B2) Patient information sheet

Document B3) Patient consent form

Document B4) Focus group topic guide

Document B1) Letter of ethical approval

NHS
National Research Ethics Service
NRES Committee London - Queen Square
Room 4W/12, 4th Floor West
Charing Cross Hospital
Fulham Palace Road
London
W6 8RF

Telephone: 020 331 17287
Facsimile: 020 331 17280

16 August 2011

Miss Catherine Carr
Unit for Social and Community Psychiatry
Academic Unit, East London Foundation NHS Trust
Newham Centre for Mental Health, Glen Road, London
E13 8SP

Dear Miss Carr

Study title: **Focus group study to inform the development of patient expectation and patient experience questionnaire for music therapy with acute psychiatric inpatients.**

REC reference: **11/LO/1119**

Thank you for your letter of 08 August 2011, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chair...

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

NHS sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Non-NHS sites

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

Management permission ("R&D approval") should be sought from all NHS organisations involved in the study in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at http://www.rdforum.nhs.uk.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Covering Letter		27 June 2011
Evidence of insurance or indemnity	Q31000193	04 August 2010
Investigator CV		24 June 2011
Letter from Sponsor		23 June 2011
Other: Professor Stefan Priebe's CV		27 June 2011
Other: Confirmation of focus group	1	24 June 2011
Other: Expectations of Music Therapy	1	03 June 2011
Other: Letter to Health Care Professionals-Focus Groups	1	11 April 2011
Other: Section 4 of the working together group's minutes		04 May 2011
Participant Consent Form: for researcher contact	1	11 April 2011
Participant Consent Form	2	08 August 2011
Participant Information Sheet: for focus group	1	11 April 2011
Protocol	1	03 June 2011
REC application	79059/226490/1/575	21 June 2011
Referees or other scientific critique report		26 November 2010
Response to Request for Further Information		08 August 2011

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document *"After ethical review – guidance for researchers"* gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

11/LO/1119	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project

Yours sincerely

Dr Yogi Amin
Chair

Email: adriana.fanigliulo@imperial.nhs.uk

Enclosures: "After ethical review – guidance for researchers"
Copy to: *Mr Gerry Leonard, Barts and the London School of Medicine and Dentistry*

Document B2) Patient information sheet

Focus groups to develop experiences of music therapy questionnaires

Patient Information Sheet

You are invited to take part in research. Before you decide, it is important to understand why the research is being done and what it will involve. Please take time to read this information carefully.

Talk to others about the study if you wish. Please ask if anything is unclear or if you would like more information. If you want to know more about the study, you can contact Catherine Carr. Take time to decide if you want to take part or not.

What is the purpose of this study?

We want to design questionnaires to help us understand your experiences of music therapy. We wish to find out what people expect and what their experiences are. If you decide to take part, we will invite you to a group discussion (called a focus group) with other patients who attend music therapy.

Why have I been invited?

We are inviting you to take part as you attend group music therapy as part of your care for mental health problems.

Do I have to take part?

You don't have to join the study. You are free to decide not to take part or to drop out at any time. If you decide not to take part, or drop out, this will not affect your medical care.

What will happen?

We are inviting you to take part in a group discussion (called a focus group) about your experiences of music therapy. The focus group will take place in [room] at [Newham Centre for Mental Health/ Mile End Hospital] and will have between 3 - 7 other patients taking part. A researcher and an assistant, not part of the healthcare team, will run the focus group. They will ask you to talk about your experiences of music therapy and your opinions about some questionnaires. The discussion will take no longer than 1 hour and refreshments of soft drinks and food will be provided.

There are no right or wrong responses and we want to hear all your views whether good or bad. We will ask you to respect the confidentiality of all members of the group.

We will record the talking in the group discussion to help us look at what was said after the group. We will only record the talking (audio). Only the resesarcher (Catherine Carr) will have access to this. Your name will not be used in the focus group if you do not wish to.

What will I have to do?

- Meeting to explain the study and answer questions
If you are interested in taking part, the health care professional who gave you this sheet will ask for your consent to pass on your name to the researcher (Catherine Carr). You can also contact Catherine yourself on 020 7530 4310 ext:2338 if you would prefer.

Catherine will then contact you to arrange a time to meet to explain the study and answer any questions you have.

- Meeting to get consent to take part
If you still want to take part, Catherine will meet again with you to get your consent to take part. She will give you written details of the time, date and place of the focus group.

- Focus Group
If you have given consent to take part, Catherine will contact you one day before the focus group to confirm where and when the group is happening and answer any other questions you might have. You will then attend the focus group, which will last no longer than 1 hour.

If at any time you decide you do not wish to take part, you are free to drop out at any time. Catherine will not contact you again and your medical care will not be affected.

What are the possible disadvantages of taking part?

We believe that this study is safe and do not expect you to suffer any harm or injury because of taking part.

If you become distressed while taking part, we will stop the meeting and ask if you want to continue. If you want to continue, we will give you time to recover before continuing. If you wish to leave, you are free to do so, and we will make sure that a member of your healthcare team is available to talk to if you need to. If you still wish to contribute to the research, it may be possible for you to attend another focus group or have an individual interview instead.

What are the possible benefits of taking part?

You may like to share your experiences and it will provide us with information on how to write our questionnaires. It is hoped that this research will lead to improvement in the care of people with mental health problems.

Will my taking part in this study be kept confidential?

All information which is collected about you will be kept strictly confidential. Your name and other personal details will be removed so that you cannot be recognised. The recording of the group discussion will be transcribed to help us look at what was said after the group. We will remove all names from the recording and transcription of the focus group and replace them with a number. Your healthcare team will not have access to the recording.

All information (including the recording) will be stored in a locked filing cabinet and archived at the end of the study. Only Catherine Carr will access. The information will be kept for 20 years in accordance with East London Foundation NHS Trust Research Governance rules after which it will be destroyed.

If you give us your permission to do so, we will inform your carer that you are taking part in this study.

We may need to break confidentiality if you tell us anything which may put yourself or others at risk of harm. If this happens, we will explain why we will need to break the confidentiality and who we will inform.

What will happen at the end of the study?

A summary of the results will be available at the end of the study. We can post or email this to you. Catherine will ask if you would like to receive this when she meets with you. If you would like to receive a copy of the results, but do not wish to take part, please contact Catherine using the information below.

Who is organising and funding the research?

The study is being done as part of an educational qualification for a PhD, supervised by Professor Stefan Priebe. The PhD is funded by the National Institute for Health Research (NIHR). The sponsor for this research is Queen Mary University of London.

Who has reviewed this study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given a favourable opinion by London Queen Square Research Ethics Committee.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. If you have a concern about any aspect of the study, you should ask to speak to the researcher (Catherine Carr) who will do her best to answer your questions (020 7540 4380 extension 2338). If you are still unhappy and wish to complain formally, you can do this by contacting the Patient Advisory Liaison Service (PALS) on 020 7377 6335.

For further information about the study please contact:

Catherine Carr
Academic Unit, Newham Centre for Mental Health
Telephone: 020 7540 4380 Extension: 2338

If you have any concerns regarding the care you have received, or wish to raise a complaint please contact:

Patient Advisory Liaison Service (PALS)
Telephone: 020 7377 6335
Minicom: 020 7943 1350

You can also visit PALS by asking at any hospital reception.

Document B3) Patient consent form

Queen Mary University of London

East London NHS Foundation Trust

CONSENT FORM- Focus Groups (Version 3 Dated 29.11.11)
REC: 11/LO/1119

Title of project: Focus groups to develop experiences of music therapy questionnaires

Investigator: Catherine Carr

Centre Number: Study Number: Patient Identification Number for this trial:

Please initial box to indicate agreement

1.	I confirm that I have read and understand the information sheet dated 08.08.11 (version 2) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2.	I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected. If I withdraw from the study, all data that is collected up to this point will be kept by the research team.	
3.	I understand that relevant sections of any of my medical notes and data collected during the study, may be looked at by responsible individuals from **East London Foundation NHS Trust** or from Queen Mary University of London & regulatory authorities, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
4.	I understand that my health care professional on the ward will be informed in writing of my participation in the research. I give permission for them to be informed of my participation.	
5.	I understand that my carer will be informed in writing of my participation in the research. I give permission for them to be informed of my participation.	
6.	I understand that the focus groups will be audio-recorded, that recordings will be kept securely by the research team and that they will be destroyed at the end of the study. I give permission to be audio-recorded during the focus group.	
7.	I understand that all information will be kept confidential and my details will be anonymised. I understand that confidentiality may need to be broken if there is concern for risk to other people or to myself.	
8.	I understand that quotations from the focus groups may be used in publication of the research findings and that quotations will be anonymised. I give permission for anonymised quotations to be used in the final report.	
9.	I agree to take part in the above study.	

I wish to be informed of the results of this study Y/N

Name of Patient	Date	Signature
Investigator	Date	Signature

1 copy for Patient, 1 for Investigator and original to be kept in medical notes

Page 1 of 1

Document B4) Focus group topic guide

Focus groups to develop experiences of music therapy questionnaires
Protocol Version 1, 3rd June 2011
REC:11/LO/1119

Development of Questionnaires to Understand Expectations and Experiences of Music Therapy

TOPIC GUIDE

Introduction

This study is investigating patient views on questionnaires to inform the development of questionnaires to evaluate expectations and experiences of music therapy to be used in a PhD study.

Specifically, the study aims to examine:

- Patient understanding of music therapy
- Patient expectations of music therapy
- Patient experiences of music therapy, including:
  a) important moments
  b) areas of satisfaction and dissatisfaction with music therapy
- Experiences of completing questionnaires
- Evaluations and suggested improvements to proposed questionnaires

Sample Composition

Four focus groups will be conducted with adult inpatients in Newham General Hospital and Mile End Hospital who are attending group music therapy. The sample will comprise of a range of ages, genders, ethnicities and socio-cultural backgrounds.

Development of Questionnaires to Understand Experiences and Satisfaction with Music Therapy

TOPIC GUIDE

To examine:
- Patient understanding of music therapy
- Patient expectations of music therapy
- Patient experiences of music therapy, including important moments, areas of satisfaction and dissatisfaction with music therapy
- Experiences of completing questionnaires
- Evaluations and suggested improvements to proposed questionnaires

1. Introduction

- Introduce self
- Explain nature and purpose of the research
- Provide assurances about confidentiality and no link to current treatment/care
- Stress that personal disclosures are not expected
- Explain what happens to data collected – transcribing, reported, anonymity – check how group would like to be referred to during recording
- Introduce tape recorder
- Group ground rules – one person to speak at a time, everyone's views important so want to hear from everyone, no right or wrong answers, looking for a range of views, consensus not required
- Mobile phones off or on silent
- Invite any questions

2. Background

→ ***Ask each participant to say a little bit about themselves: e.g. whether they have taken part in research before***

Potential probes:
- Any experience of taking part in research
- Any previous experiences of completing questionnaires in hospital

3. Understanding of music therapy

What are people's understanding of music therapy? How would you describe music therapy?

Potential probes:

- What happens?
- Why do you attend?

4. Expectations of music therapy

What do you expect from music therapy?

Potential probes:

- Did the experience differ from what was expected?
- Frequency and length of therapy sessions
- Instruments
- Music therapist
- Information provided
- Accessibility
- Referral to and from music therapy
- Health related outcomes eg. improved symptoms/wellbeing/social skills
- Types of music making (active/receptive/improvisation/pre-composed/learning/songwriting)

5. Experiences of music therapy

What have your experiences been of music therapy?

Potential probes:

- Good experiences
- Bad experiences
- What made this experience good/bad?
- How could music therapy be improved?

Do any experiences stand out as significant or important?

Potential probes:

- What makes a significant or important moment?
- Role of music, other group members and therapist

6. General experiences of completing questionnaires

Thinking of any experiences they have had when completing questionnaires

Views about completing questionnaires

- Principal features of the experience that have influenced their view
- What are the good points
- What are the bad points

Nature of problems experienced when completing questionnaires

- Language/understanding/time/setting

7. Introduce Questionnaires – Give 10 minutes to read through and complete

Thinking about these specific questionnaires and experience of completing them

Views about completing questionnaires

- Principal features
- What are the good points
- What are the bad points
- Suitability for use in hospitals

If not mentioned prompt for:

- Clarity of language
- Ease of understanding
- Phrasing of questions
- Length

8. Improving Questionnaires

- Wording
- Layout
- Length
- How to deliver questionnaires
- Anything else they would like to add

End of Focus Group

- Thank participants for their time
- Remind re: Confidentiality and recording

Appendix C

Chapter 5- supporting information

Experiences of Music Therapy Questionnaire

Final Version

Experiences of Music Therapy

Introduction

This questionnaire asks about your experiences of music therapy today.

It is very important that you answer **truthfully**. Please express your opinion **whatever it is**.

All your answers will be treated **confidentially**. They will not be discussed with the professionals working in the service or your relatives.

Please feel free to ask the researcher for help if a question is not clear or if you encounter any problem in filling in the questionnaire.

Please read the instructions very carefully and take your time before answering. It is very important that every answer expresses your true opinion.

Please turn the page over to start the questionnaire.

Participant ID: _____
Date: _____
Researcher: _____
Time point: Baseline____ Week:____ Endpoint: _____

In the following questions, we ask you about your experiences of music therapy today.

Please mark the answer that best describes your overall experience of music therapy today.

1. Did you find the music therapy helpful today?

1. Extremely unhelpful	2. Mostly unhelpful	3. Mixed	4. Mostly helpful	5. Extremely helpful

2. How did you feel after music therapy today?

1. Much worse	2. A little worse	3. The same	4. A little better	5. Much better

3. Did you enjoy music therapy today?

1.A great deal	2. Very much	3. Quite a bit	4. Not much	5. Not at all

Please write your comments:

4. The most helpful part of the music therapy today was:

_____

_____

5. The most unhelpful part of the music therapy today was:

_____

_____

Please turn the page.

Think back over your music therapy today. Of the events which occurred, **which one event was the most important for you personally?**

The event might have happened while you were playing music, while you were talking, while you were listening or it might have been a thought that occurred to you.

6. Please describe the most important event (what happened?):

_____

_____

_____

_____

7. Please tick ONE box which best describes your event:

☐ I was listening to the music and playing an instrument

☐ I was listening to the music but not playing an instrument

☐ I was listening to other people talking

☐ I said something

☐ It was something that I was thinking about

Please turn the page.

8. Please mark an X on the timeline roughly when this event happened in the session:

|_____|_____|_____|_____|

0 15 30 45 60 minutes

Beginning Middle End

9. Why was this event important for you?

_____

_____

_____

_____

Please mark yes or no:

10.1 Was music playing during your event? YES / NO

If yes, was this important? YES / NO

10.2 Was the music therapist involved during your event? YES / NO

If yes, was this important? YES / NO

10.3 Was another group member involved during your event? YES / NO

If yes, was this important? YES / NO

This is the end of the questionnaire. Thank you very much for your help.

Appendix D

Modelling of Intensive Group Music Therapy

Chapters 6 and 7 supporting information

Sample size calculation

6th August 2012, REC: 12/NS/0088

Sample size calculation for Modelling of Intensive Group Music Therapy:

A convenience sample will be recruited from inpatient services within East London Foundation NHS Trust. Assuming an average stay of 4 weeks, and an average of 4 patients in the group at any one session, the inclusion of 150 participants will allow examination of 4 data points, providing approximately 600 patient responses to 120 sessions over 6 months. Analysis will be performed on one session per week for each of the 5 music therapy groups. This has been decided to minimise the burden placed upon patients completing questionnaires, which might also affect motivation and willingness to attend. In the groups where music therapy is offered more than once a week, the final session of each week will be assessed. For outcome variables, it is estimated that data will be available on 150 participants.

A sample size calculation was performed to detect small, medium and large effect sizes, as estimated from the coefficient of determination value obtained from multiple linear regression models fitted to data (Cohen, 1988). To detect a medium effect on patient appraisal, with 80% power and p=0.05, based on an intra-cluster correlation coefficient of 0.10 for clustering by therapist, a sample size of approximately 150 patients is required. This allows for 15% loss to follow-up.

Twenty interviews will provide sufficient saturation required to report key themes of experiences in conjunction with qualitative data collected throughout inpatient attendance of music therapy.

Calculation:

Detection of small, medium-small, medium, or large effect size, as estimated from the coefficient of determination i.e. R^2 value obtained from multiple linear regression models fitted to data.

The outcome variable is patient appraisal, measured on a 3 items, with a 5-level Likert response scale, expressed as a total of the 3 item scores. Scores range from 3 to 15 with higher scores indicating more positive appraisals. Based on a pilot with 26 patients, the scale has a mean of 11.54 and standard deviation of 2.769.

There will be 5 music therapy groups, of unequal size. Three groups will run 3 times per week, one group will run twice a week, and one group will run once a week. There are 6 independent variables:

- Duration of music making (expressed as amount of time spent during session)
- Level of group synchrony
- Level of group cohesion
- Level of individual leadership
- Level of group conflict
- Level of variability in playing.

Therapists will each have an average of 4 patients in the group at any one time (cluster size k = 4). Assume no loss to follow-up.

Effect sizes in Cohen (p.413):

Large effect size $f^{2:} = 0.35$ Medium effect size $f^2 = 0.15$ Small effect size $f^2 = 0.02$

Assume the intra-cluster correlation coefficient for appraisal is 10% - typical value for therapist effects.

Fix power at 80% and significance level at 5%.

Use Cohen's method to determine sample size based on tabulated values of λ, a parameter of the non-central F-distribution.

$N= \lambda(1-R^2)/R^2$

Degrees of freedom (df): v=N-u-1 where N is total number of patients, u is number of independent variables (IVs), v is the residual degrees of freedom.

λ is chosen by trial and error and calculated sample size is compared to the v column (Cohen, p.452) for a=0.05, power r=0.8, u=6. If λ is >10% smaller or larger than v, can recalculate.

Large effect size:

ICC = .10, R^2 = .26 i.e. .35/(1+.35) where f^2 = .35 With 6 IVs, u=6

Try λ = 15, corresponding to v=60.

N = 15* (1-.26)/.26 = 43 This corresponds to v = 43-6-1 = 36 which is more than 10% smaller than v(15).

Recompute λ: $\lambda' = \lambda_L-(1/v_L-1/v)(\lambda_L -\lambda_U)(1/v_L-1/v_U)^{-1} = 18.4 – (1/20 – 1/36)*(18.4-14.3)*1/(1/20-1/120) =16.21$

$N= \lambda(1-R^2)/R^2$

N = 16.21*(1-0.26)/0.26 = 46.14

Design effect (Deff) is 1 + (k'-1)*ICC where k is average cluster size.

Deff = 1 + (4-1) x .10 = 1.3 $N_{Cluster}$=1.3*48.14 = **60**

To account for 15% attrition: $N_{cluster}$ * 1/.85 = 1.18; 1.18 * 60 = **71**

→ 14 per group over 6 months, or 3 patients per group, per month

Medium effect size:

ICC = .10, R^2 = .13 i.e. .15/(1+.15) where f^2=.15 With 6 IVs, u=6

Try λ = 15, corresponding to v=60.

N = 15* (1-.13)/.13 = 100.38.

This corresponds to v = 100-6-1 = 93 which is more than 10% larger than v(15).

Recompute λ: $\lambda' = \lambda_L-(1/v_L-1/v)(\lambda_L -\lambda_U)(1/v_L-1/v_U)^{-1} = 18.4 – (1/20 – 1/93)*(18.4-14.3)*1/(1/20-1/120)=14.54$

$N= \lambda(1-R^2)/R^2$

N = 14.54*(1-0.13)/0.13 = 97.31

Design effect (Deff) is 1 + (k'-1)*ICC where k is average cluster size.

Deff = 1 + (4-1) x .10 = 1.3 $N_{Cluster}$=1.3*97.31 = **127**

To account for 15% attrition: $N_{cluster}$ * 1/.85 = 1.18; 1.18 * 127 = **150**

→ 30 per group over 6 months, or 5 patients per group per month

Medium- small effect size:

ICC = .10, R^2 = .07 13 i.e. .07/(1+.07) where f^2=.07 With 6 IVs, u=6

Try λ = 15, corresponding to v=60.

N = 15* (1-.07)/.07 = 199.

This corresponds to v = 199-6-1 = 192 which is more than 10% larger than v(15).

Recompute λ: $\lambda' = \lambda_L-(1/v_L-1/v)(\lambda_L -\lambda_U)(1/v_L-1/v_U)^{-1} = 18.4 – (1/20 – 1/192)*(18.4-14.3)*1/(1/20-1/120) =14$

$N= \lambda(1-R^2)/R^2$

N = 14*(1-0.07)/0.07 = 186

Design effect (Deff) is 1 + (k'-1)*ICC where k is average cluster size.

Deff = 1 + (4-1) x .10 = 1.3 $N_{Cluster}$=1.3*186 = **241.8**

To account for 15% attrition: $N_{cluster}$ * 1/.85 = 1.18; 1.18 * 241.8 = **285**

→ 57 per group over 6 months, or 10 patients per group per month

Small effect size:

ICC = .10, R^2 = .02 i.e. .02/(1+.02) where f^2=.02 With 6 IVs, u=6

Try λ = 15, corresponding to v=60.

N = 15* (1-.02)/.02 = 49

This corresponds to v = 49-6-1 = 42 which is more than 10% smaller than v(15).

Recompute λ: $\lambda' = \lambda_L-(1/v_L-1/v)(\lambda_L -\lambda_U)(1/v_L-1/v_U)^{-1} = 18.4 – (1/20 – 1/42)*(18.4-14.3)*1/(1/20-1/120) =15.8$

$N= \lambda(1-R^2)/R^2$

N = 15.8*(1-0.02)/0.02 = 775

Design effect (Deff) is 1 + (k'-1)*ICC where k is average cluster size.

Deff = 1 + (4-1) x .10 = 1.3 $N_{Cluster}$=1.3*775 = **1007.5**

To account for 15% attrition: $N_{cluster}$ * 1/.85 = 1.18; 1.18 * 1007.5 = **1189**

→ 240 per group over 6 months, or 40 patients per group per month.

Reference:

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. New Jersey: Lawrence Erlbaum Associates.

Appendix E

Modelling of Intensive Group Music Therapy

Chapters 6 and 7 supporting information

Ethical approval, patient information and consent forms

Document E1) Letter of ethical approval

Document E2) Patient information sheet

Document E3) Patient consent form

Document E4) Mental Capacity Checklist

Document E1) Letter of ethical approval

NRES Committees - North of Scotland
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2 Eday Road
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NHS Grampian

11 September 2012

Miss Catherine Carr
Unit for Social and Community Psychiatry
Academic Unit
East London Foundation NHS Trust
Newham Centre for Mental Health
Glen Road
LONDON
E13 8SP

Dear Miss Carr

Full title of study: **Modelling of Intensive Group Music Therapy for Acute Psychiatric Adult Inpatients**
REC reference number: **12/NS/0088**

Thank you for your letter of 7 September 2012. I can confirm the REC has received the documents listed below as evidence of compliance with the approval conditions detailed in our letter dated 30 August 2012. Please note these documents are for information only and have not been reviewed by the Committee.

Documents received

The documents received were as follows:

Document	*Version*	*Date*
Covering Letter		7 September 2012
Groups to be listed on Patient Information Sheet for each ward		11 September 2012*
Roman Ward, OT Department & Community Group Timetable		11 September 2012*
Brick Lane, OT Department & Community Group Timetable		11 September 2012*
Participant Consent Form: Clean	2	6 September 2012
Participant Consent Form: Tracked	2	6 September 2012
Participant Information Sheet: Clean	2	6 September 2012
Participant Information Sheet: Tracked	2	6 September 2012

* date received

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

12/NS/0088	**Please quote this number on all correspondence**

Yours sincerely

Carol Irvine

Mrs Carol Irvine
Acting Scientific Officer

Copy to: Mr Gerry Leonard, National Institute for Health Research

Document E2) Patient information sheet

Group Music Therapy Study: Patient Information Sheet

You are invited to take part in research. Before you decide, it is important to understand why the research is being done and what it will involve. Please take time to read this information carefully.

If you don't understand or if you want more information please ask. Take time to decide if you want to take part or not.

Why is this study being done?

We want to look at what happens in group music therapy. This study will look at what music therapists do, what happens in music therapy sessions, and what people's experiences are when they attend.

Why have I been invited?

We are inviting you to take part as you are receiving care for mental health problems in hospital.

Do I have to take part?

You do not have to take part and you can drop out at any time. If you decide not to take part this will not affect your medical care.

What will happen?

You will be invited to attend a music therapy group. The group will take place in [room] at [ward/site] with 2 – 7 other patients taking part. A music therapist [name], will run the group. You can attend the group for as long as you are in hospital.

A researcher, Catherine Carr, will meet with you once a week. She will ask you about your experiences during the group. The meeting will take no longer than 30 minutes at a time to suit you.

The music therapy sessions will be recorded on a video camera to look at what happened in the group. Only Catherine will have access to this.

What will I have to do?
- Meeting for more information

If you are interested taking part, the person who gave you this sheet will pass your name to Catherine. Catherine will meet with you to explain the study and answer your questions.

- Consent to take part

If you still want to take part, Catherine will meet with you again. She will ask for your consent to take part and complete some questionnaires with you.

- Taking part

You can start attending the music therapy group with [therapist name]. Catherine will meet with you once a week to complete some questionnaires. This will happen every week until you stop going to music therapy.

When you have stopped going to music therapy, you will be invited to take part in an optional interview with Catherine. The interview will last no more than 1 hour. Only the talking (audio) will be recorded.

You are free to leave the study at any time. If you lose the ability to make decisions for yourself, we will stop your participation in the study. We will still use the information you have given us and may also use this in future studies.

What happens if I decide not to take part?

If you decide not to take part, you can still access other arts therapies, psychology and occupational therapy groups in the hospital. Catherine will not contact you again and your medical care will not be affected.

Groups available include:

Arts therapies:	[Art therapy]	Contact: [Therapist name]
	[Dance Movement Therapy]	Contact: [Therapist name]
Occupational therapy:	[Music appreciation]	Contact: [OT name]
	[Drumming group]	
Psychology:	[Hearing voices group]	Contact:[Psychologist name]

If you would like to attend any of these groups, please speak to a member of staff on your ward.

What are the possible disadvantages of taking part?

We believe that this study is safe and do not expect you to suffer any harm or injury because of taking part.

Some people find the music in the group noisy or upsetting. If you get upset in the music therapy group, the therapist will make sure that you are ok and that you can talk to someone.

You might find it difficult to read the questionnaires. If you find reading difficult, the researcher can help.

If you get upset or find the questions difficult, we will stop and you can take a break. If you want to stop the meeting we will arrange another time to meet with you.

What are the possible benefits of taking part?

You may like to share your experiences and it will help us learn what things are important to do in music therapy. We hope that this research will lead to improvement in the care of people with mental health problems.

Will taking part in this study be kept confidential?

We will ask for your permission for Catherine to collect information about you. This will be kept strictly confidential. Your name and personal details will be removed (anonymised) so that you cannot be identified. The only people who may see information about your part in the study are members of the research team. Your clinical team will not have access to this information.

All anonymised information will be stored in a locked filing cabinet and kept in a secure archive at the end of the study. Only Catherine Carr will access. We are required to keep this for 20 years. The information will then be destroyed.

If you tell us something which could put you or someone else at risk of harm we may have to break confidentiality. If this happens, we will explain why and who we will inform.

What will happen at the end of the study?

A summary will be available at the end of the study. We can post or email this to you. If you would like to receive a copy, please contact Catherine using the information below.

Who is organising and funding the research?

Catherine is doing this study as part of an educational PhD qualification. The supervisor is Professor Stefan Priebe. The PhD is funded by the National Institute for Health Research (NIHR). The sponsor is Queen Mary University of London.

Who has reviewed this study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given a favourable opinion by the North of Scotland Research Ethics Committee 1.

What if there is a problem?

We will address any complaint about the study or any possible harm you might suffer. If you have a concern, you should ask to speak to Catherine Carr who will do her best to answer your questions (020 7540 4380 extension 2338). If you are still unhappy and wish to complain formally, you can contact the Patient Advisory Liaison Service (PALS) on 020 7377 6335.

For further information about the study please contact:

Catherine Carr
Academic Unit, Newham Centre for Mental Health
Telephone: 020 7540 4380 Extension: 2338

If you have any concerns regarding the care you have received, or wish to raise a complaint please contact:
Patient Advisory Liaison Service (PALS)
Telephone: 020 7377 6335
Minicom: 020 7943 1350

You can also visit PALS by asking at any hospital reception.

Document E3) Patient consent form

Queen Mary University of London

East London NHS Foundation Trust

CONSENT FORM- Group Music Therapy Study (Version 2 Dated 06.09.12) **REC: 12/NS/0088**

Title of project: Modelling of Group Music Therapy **Investigator: Catherine Carr**

Centre Number: Study Number: Patient Identification Number:

Please initial box to indicate agreement

1.	I have read the information sheet dated 06.09.12 (version 2). I understand the information. I have had time to think about it and ask questions.	
2.	I understand that taking part is voluntary. I can stop at any time and I do not have to give a reason. My medical care will not be affected. If I leave the study, the research team will keep the information I have given.	
3.	I understand that my medical notes may be looked at for the research. I give permission for the researcher to have access to my records.	
4.	I understand that the music therapy groups will be video-recorded. I give permission to be video-recorded during the music therapy groups.	
5.	I understand that personal information about me will be kept confidential. The only people who can see this information are the research team. I understand that confidentiality may need to be broken if there is risk to other people or to myself.	
6.	I understand that what I say in the research may be used (quoted) when the research is published. Anything that is quoted will be anonymised so that it is not possible to know who has said it. I give permission for anonymised quotations to be used in the final report.	
7.	I agree to take part in the above study.	
8.	OPTIONAL: PLEASE CIRCLE YES OR NO I agree to be interviewed when I finish music therapy Yes No I want to be told about the results of this study Yes No	

Name of Patient	Date	Signature
Investigator	Date	Signature

1 copy for Patient, 1 for Investigator and original to be kept in medical notes

Page 1 of 1

Document E4) Mental Capacity Checklist

Modelling of Group Music Therapy Capacity Checklist Version 1, 08.08.2012
REC:12/NS/0088

From Dobson (2008). Conducting research with people not having the capacity to consent to their participation, A practical guide for researchers. British Psychological Society, London p.49

APPRAISAL OF PARTICIPANT INVOLVEMENT IN RESEARCH: ASSESSING CAPACITY TO CONSENT

Checklist for researchers to decide whether a prospective participant has the capacity to consent to their participation

Participant Number: **Date:** **Purpose of assessment/meeting:**

Section A- Enabling capacity:	Mark Y/N
Have you made every effort to enable a prospective participant to make the decision themselves to participate or refuse?	☐
Have you used language or methods of communication that the person is most likely to understand?	☐
Have you given sufficient time for the person to think about the project?	☐
Has the person conferred with others who could help explain the project?	☐
If NO to any item in Section A, return to guidance on 'enabling decision making'. **If YES to all items in Section A, continue…**	
Section B – Diagnostic Assessment:	
Is there evidence to demonstrate impairment of mind or brain?	☐
Is there evidence to demonstrate that this is temporary, fluctuating or permanent?	☐
Is there evidence to demonstrate that the impairment affects the person's ability to decide about their participation in research?	☐
If NO to any item in Section B discuss with Principal Researcher **If YES to all items in Section B, continue…**	
Section C – Functional Assessment	
Does the person understand that they can consent to or refuse to participate in research?	☐
Does the person understand what the research is about?	☐
Does the person understand and weigh-up the benefits and risks of agreeing or refusing to take part?	☐
Has the person communicated their decision to you in any way?	☐
If YES to any item in Section C, return to guidance on 'enabling decision-making'. **If NO to the first 3 items in Section C, the person DOES NOT have the capacity to consent to or to refuse to take part in the research project.**	
Assessed to have capacity? **Checklist completed by:** **Date:**	☐

Appendix F

Modelling of Intensive Group Music Therapy

Chapters 6 and 7 supporting information

Study Measures

Document F1) Therapist attendance and most important event form

Document F2) Clinical Global Impression of Severity and Improvement (CGI-S/CGI-I)

Document F3) Interest in Music Scale (IIM)

Document F4) Treatment Credibility Scale (TCS)

Document F5) University of Rhode Island Change Assessment Scale- Pre-contemplation and Contemplation subscales (URICA)

Document F6) California Psychotherapy Alliance Scale- Group- Commitment subscale (CALPAS-G)

Document F7) Ferrara Group Experiences Scale (FE-GES)

Document F8) Client Change Interview Protocol

Document F1) Therapist attendance and most important event form

Modelling of Group Music Therapy Therapist Form: Group Attendance and Significant Moments Version 1, 22.05.12 REC:12/NS/0088

Date of group:_____ Site:_____ Ward:_____

Patient Name:	**Attended**	**Reason for non-attendance**	**Most important event:** Please describe in as much detail as possible, what the patient, group and yourself did or said.	**Approx Timing in gp**	**Pt was playing an instrument**	**Pt was talking**	**Why was this event important?**
	Y/N Mins late: Left early:				Y/N Instrument:	Y/N	
	Y/N Mins late: Left early:				Y/N Instrument:	Y/N	
	Y/N Mins late: Left early:				Y/N Instrument:	Y/N	
	Y/N Mins late: Left early:				Y/N Instrument:	Y/N	

Document F2) Clinical Global Impression of Severity and Improvement (CGI-S/CGI-I)

Modelling of Group Music Therapy
Clinical Global Impression (CGI)

Version 1, 08.08.12 REC:12/NS/0088

Participant number:
Date:

To be completed by researcher after assessment:
Baseline:
End of study:

1. **Severity of illness**
   Considering your total clinical experience with this particular population, how mentally ill is the patient at this time?

Not assessed	Normal, Not at all ill	Borderline mentally ill	Mildly ill	Moderately ill	Markedly ill	Severely ill	Among the most extremely ill patients
0	1	2	3	4	5	6	7

2. **Global improvement:**
   Rate the total improvement whether or not, in your judgement, it is due entirely to drug treatment. Compared to his condition at admission to the project, how much has he changed?

Not assessed	Very much improved	Much improved	Minimally improved	No change	Minimally worse	Much worse	Very much worse
0	1	2	3	4	5	6	7

Document F3) Interest in Music Scale (IIM)

Interest in Music Scale (IiM) - English Version

On this page you will find a list of attitudes and opinions that people can have about music. Please read each item carefully, and select the answer that best describes your attitude. Answer by setting a cross into the box of the answer that fits best for you. Please do not skip any items. If you change your mind, please erase your first answer completely.

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	I like to make music alone					
2	I like to make music together with other people					
3	I like to listen to music alone					
4	I like to listen to music together with other people					
5	I like to go to concerts or other musical ´events`					
6	I get a feeling of joy and pleasure in making music					
7	I get a feeling of ´flow` in making music					
8	I use music to avoid contact with others					
9	I like to discuss music with other people					
10	I often listen to music so that I do not have to talk to others					
11	I like to read music magazines					
12	Music touches me deeply					

Document F4) Treatment Credibility Scale (TCS)

Treatment Credibility Scale:

Please indicate how much you believe *right now*, that the music therapy will help to treat your mental health problems.

		Strongly disagree	Quite Disagree	Neither agree nor disagree	Quite Agree	Strongly agree
1	I am confident that this treatment can help me with my mental health problems					
2	I would be confident to recommend this treatment to a friend who suffered from similar problems					
3	This treatment seems logical to me					
4	I am confident that this treatment can help me with any other related problems I have					

Document F5) University of Rhode Island Change Assessment Scale- Pre-contemplation

and Contemplation subscales (URICA)

University of Rhode Island Change Assessment Scale

Each statement below describes how a person might feel when starting therapy or approaching problems in their lives. Please indicate the extent to which you tend to agree or disagree with each statement.

In each case, make your choice in terms of how you feel **right now**, not what you have felt in the past or would like to feel. For all statements that refer to your 'problem', answer in terms of problems related to why your are in therapy. The words "here" and "this place" refer to your treatment centre.

There are five possible responses to each of the items in the questionnaire:
1=Strongly Disagree
2=Disagree
3=Undecided
4=Agree
5=Strongly Agree

Circle the number that best describes how much you agree or disagree with each statement.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1. As far as I'm concerned, I don't have any problems that need changing.	1	2	3	4	5
2. I think I might be ready for some self-improvement	1	2	3	4	5
3. I'm not the problem one. It doesn't make much sense for me to be here	1	2	3	4	5
4. I've been thinking that I might want to change something about myself	1	2	3	4	5

Please turn the page.

Circle the number that best describes how much you agree or disagree with each statement.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
5. Trying to change is pretty much a waste of time for me because the problem doesn't have to do with me	1	2	3	4	5
6. I'm hoping this place will help me to better understand myself	1	2	3	4	5
7. I guess I have faults, but there's nothing that I really need to change	1	2	3	4	5
8. I have a problem and I really think I should work on it	1	2	3	4	5
9. I wish I had more ideas on how to solve my problem	1	2	3	4	5
10. Maybe this place will be able to help me	1	2	3	4	5
11. I may be part of the problem, but I don't really think I am	1	2	3	4	5
12. I hope that someone here will have some good advice for me	1	2	3	4	5
13. All this talk about psychology is boring. Why can't people just forget about their problems?	1	2	3	4	5
14. I have worries but so does the next person. Why spend time thinking about them?	1	2	3	4	5

Document F6) California Psychotherapy Alliance Scale- Group- Commitment subscale (CALPAS-G)

Commitment to therapy

Below is a list of questions that describe attitudes people might have about their group therapy. Think about the session you just completed and decide the degree to which each question best describes your experience. Circle the number indicating your choice. Please answer each question.

Reminder: Your responses on this form are confidential and will not be seen by either your therapist or the group members. You are of course free to discuss with them any of these questions.

1. **Did you find yourself tempted to stop therapy when you were upset or disappointed with therapy?**

Not at all	A little bit	Somewhat	Moderately	Quite a bit	Quite a lot	Very much so
1	2	3	4	5	6	7

2. **Did you feel that even if you might have moments of doubt, confusion or mistrust, that overall therapy was worthwhile?**

Not at all	A little bit	Somewhat	Moderately	Quite a bit	Quite a lot	Very much so
1	2	3	4	5	6	7

3. **During this session, how willing were you to continue struggling with your problems, even though you could not always see an immediate solution?**

Not at all	A little bit	Somewhat	Moderately	Quite a bit	Quite a lot	Very much so
1	2	3	4	5	6	7

Please turn the page.

4. **How much did you resent the time or other demands of your group therapy?**

Not at all	A little bit	Somewhat	Moderately	Quite a bit	Quite a lot	Very much so
1	2	3	4	5	6	7

5. **How much did you find yourself thinking that therapy was not the best way to get help with your problems?**

Not at all	A little bit	Somewhat	Moderately	Quite a bit	Quite a lot	Very much so
1	2	3	4	5	6	7

6. **How confident did you feel that through your own efforts and those of the group members that you will gain relief from your problems?**

Not at all	A little bit	Somewhat	Moderately	Quite a bit	Quite a lot	Very much so
1	2	3	4	5	6	7

Document F7) Ferrara Group Experiences Scale (FE-GES)

Group Experiences Questionnaire

This questionnaire asks about your experiences in the music therapy group. Please mark one answer for each question.

Not at all	Very little	Some	Quite a lot	Very Much
0	1	2	3	4

1.	Within the group I shared my personal experiences and life problems.	***0***	***1***	***2***	***3***	***4***
2.	I met people in the group who were experiencing the same problems as me.	***0***	***1***	***2***	***3***	***4***
3.	I was helped by others in the group.	***0***	***1***	***2***	***3***	***4***
4.	I socialised with others in the group.	***0***	***1***	***2***	***3***	***4***
5.	I built relationships of trust with others in the group.	***0***	***1***	***2***	***3***	***4***
6.	I met new and positive people in the group.	***0***	***1***	***2***	***3***	***4***
7.	I was able to recognise my feelings in the group.	***0***	***1***	***2***	***3***	***4***
8.	It was hard for me to talk about my problems in the group	***0***	***1***	***2***	***3***	***4***
9.	I was afraid to express my opinion in the group.	***0***	***1***	***2***	***3***	***4***
10.	I talked with others about my suffering in the group.	***0***	***1***	***2***	***3***	***4***
11.	I hid my feelings in the group.	***0***	***1***	***2***	***3***	***4***
12.	I understood the reasons for my behaviour in the group.	***0***	***1***	***2***	***3***	***4***
13.	In the group, I understood better how I usually deal with my problems.	***0***	***1***	***2***	***3***	***4***
14.	I learned how to manage good interactions with others in the group.	***0***	***1***	***2***	***3***	***4***
15.	In the group, I have realised how much my behavioural problems have improved.	***0***	***1***	***2***	***3***	***4***
16.	I paid attention to what others said in the group.	***0***	***1***	***2***	***3***	***4***
17.	I expressed my thoughts clearly in the group.	***0***	***1***	***2***	***3***	***4***
18.	I could remember what was said in the group.	***0***	***1***	***2***	***3***	***4***
19.	I listened to others carefully in the group.	***0***	***1***	***2***	***3***	***4***
20.	I found it difficult to express my thoughts clearly in the group	***0***	***1***	***2***	***3***	***4***

Document F8) Client Change Interview Protocol

Client Change Interview Protocol (CSEP, 9/99)

Reference: Elliott, R., Slatick, E., & Urman, M. Qualitative Change Process Research on Psychotherapy: Alternative Strategies. (in press). In J. Frommer and D. Rennie (Eds.), The Methodology of Qualitative Psychotherapy Research. Lengerich: Germany: Pabst Science Publishers

Instructions

Preparation: Give client a copy of the interview schedule the week before, so that s/he can think about it beforehand.

Materials:

- This protocol, including Change Interview Record
- Digital audio recorder

Label notes & tape: Please label your notes and the interview tape with the following information: Client case number; date of interview; your name.

Interview Strategy: This interview works best as a relatively unstructured empathic exploration of the client's experience of therapy. Think of yourself as primarily trying to help the client tell you the story of his or her therapy so far. It is best if you adopt an attitude of curiosity about the topics raised in the interview, using the suggested open-ended questions plus empathic understanding responses to help the client elaborate on his/her experiences. Thus, for each question, start out in a relatively unstructured manner and only impose structure as needed. For each question, a number of alternative wordings have been suggested, but keep in mind that these may not be needed.

- Ask client to provide as many details as possible
    - Use the "anything else" probe (e.g., "Are there any other changes that you have noticed?"): inquire in a nondemanding way until the client runs out of things to say

Introduction for Client. Do some simpler version of the introduction given at the top of the Interview Schedule to introduce the interview.

Change Interview Record (7/99)

Client Initials_____ Case ID_____

Interviewer_____ Date_____

Number of music therapy sessions (circle one): 10 20 30 40 other:

Change List

Change	Change was: 1 - expected 3 - neither 5 - surprised by	Without therapy: 1 - unlikely 3 - neither 5 - likely	Importance: 1-not at all 2-slightly 3-moderately 4-very 5-extremely
1.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
2.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
3.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
4.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
5.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
6.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
7.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
8.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Client Change Interview Schedule (9/99)

You have given your consent to take part in a semi-structured interview about your experiences of music therapy. The interview should take no longer than an hour. If you need to stop or take a break at any point, please tell the researcher. The major topics of this interview are any changes you have noticed since therapy began, what you believe may have brought about these changes, and helpful and unhelpful aspects of the therapy. The main purpose of this interview is to allow you to tell us about the therapy and the research in your own words. This information will help us to understand better how the therapy works; it will also help us to improve the therapy. This interview is tape-recorded for later transcription. Please provide as much detail as possible.

2. General Questions:

1c. What has therapy been like for you so far? How has it felt to be in therapy?

1d. How are you doing now in general?

2. Self-Description:

2a. How would you describe yourself? (If role , describe what kind of ____? If brief/general, can you give me an example? For more: How else would you describe yourself?)

2b. How would others who know you well describe you? (How else?)

2c. If you could change something about yourself, what would it be?

3. Changes:

3a. What changes, if any, have you noticed in yourself since therapy started? (For example, Are you doing, feeling, or thinking differently from the way you did before? What specific ideas, if any, have you gotten from therapy so far, including ideas about yourself or other people? Have any changes been brought to your attention by other people?) *[Interviewer: Jot changes down for later.]*

3b. Has anything changed for the worse for you since therapy started?

3c. Is there anything that you wanted to change that hasn't since since therapy started?

4. Change Ratings: (Go through each change and rate it on the following three three scales:)

4a. For each change, please rate how much you expected it vs. were surprised by it? (Use this rating scale:)

(1) Very much expected it

(2) Somewhat expected it

(3) Neither expected nor surprised by the change

(4) Somewhat surprised by it

(5) Very much surprised by it

4b. For each change, please rate how likely you think it would have been if you hadn't been in therapy? (Use this rating scale:)

(1) Very unlikely without therapy (clearly would not have happened)

(2) Somewhat unlikely without therapy (probably would not have happened)

(3) Neither likely nor unlikely (no way of telling)

(4) Somewhat likely without therapy (probably would have happened)

(5) Very likely without therapy (clearly would have happened anyway)

4c. How important or significant to you personally do you consider this change to be? (Use this rating scale:)

(1) Not at all important

(2) Slightly important

(3) Moderately important

(4) Very important

(5) Extremely important

5. Attributions: In general, what do you think has caused these various changes? In other words, what do you think might have brought them about? (Including things both outside of therapy and in therapy)

6. Helpful Aspects: Can you sum up what has been helpful about your therapy so far? Please give examples. (For example, general aspects, specific events)

7. <u>Problematic Aspects</u>:

7a. What kinds of things about the therapy have been <u>hindering</u>, unhelpful, negative or disappointing for you? (For example, general aspects. specific events)

7b. Were there things in the therapy which were <u>difficult</u> or <u>painful</u> but still OK or perhaps helpful? What were they?

7c. Has anything been <u>missing</u> from your treatment? (What would make/have made your therapy more effective or helpful?)

ANY OTHER GROUPS? WHAT DID YOU THINK ABOUT THE FREQUENCY?

8. <u>Suggestions</u>. Do you have any <u>suggestions</u> for us, regarding the research or the therapy? Do you have <u>anything else</u> that you want to tell me?

Appendix G

Modelling of Intensive Group Music Therapy

Chapter 7 supporting information

Multiple imputation results

Table G1: Outcome: Appraisal- Univariate associations with predictors: N Level 3: 5, Level 2: 172, Level 1: 404							
Predictor type	Predictor	*B*	95% CI		Std Err	*p*	%var (R^2)
Common process	Motivation (URICA)	.010	-.007	.029	.008	.23	.02
	Commitment to group (CALPAS)	**.154**	**.025**	**.284**	**.066**	**.02**	**.02**
Music Therapy	Improvisation	<.001	-.001	.001	<.001	.96	<.01
Activity (duration)	Precomposed	<.001	-<.001	.001	<.001	.26	<.01
	Singing	.001	-.001	.002	.001	.41	.01
	Speaking	<.001	<-.001	<.001	<.001	.91	<.01
	Silence	<.001	-.002	.002	.001	.98	<.01
Initiation of activity	Therapist- total	.001	-.015	.017	.008	.91	<.01
	Patient- total						
	Others- total	-.004	-.016	.008	.006	.53	<.01
Improvisation	Therapist	.038	-.011	.086	.025	.13	<.01
	Patient	**.028**	**.009**	**.047**	**.010**	**<.01**	**<.01**
	Others	-<.001	-.025	.025	.013	.99	<.01
Precomposed	Therapist	.001	-.073	.076	.037	.97	<.01
	Patient	.007	-.038	.052	.023	.76	<.01
	Others	.021	-.026	.068	.024	.38	<.01
Singing	**Therapist**	**.020**	**.003**	**.036**	**.009**	**.02**	**.01**
	Patient	**.017**	**.005**	**.028**	**.006**	**<.01**	**.01**
	Others	.013	-.015	.041	.014	.36	<.01
Speaking	Therapist	.002	-.017	.022	.010	.80	<.01
	Patient	.004	-.007	.015	.006	.48	<.01
	Others	.009	-.007	.025	.008	.28	<.01
Patient participation	**N times in group**	**-.078**	**-.158**	**.002**	**.040**	**.06**	**<.01**
	Duration present	<.001	<-.001	<.001	<.001	.55	<.01
	Duration participating	<.001	<-.001	.001	<.001	.27	.01
Music	**Duration ppt plays music**	**<.001**	**<-.001**	**.001**	**<.001**	**.05**	**.01**
	Duration synchrony	<.001	-.001	.001	<.001	.92	<.01
	N joint group endings	.210	-.087	.506	.151	.17	.01
Group	N ppts in group	.009	-.104	.122	.058	.87	<.01
	Time on own	<.001	-<.001	<.001	<.001	.60	<.01
	N entrances	-.046	-.139	.048	.048	.34	.01
	N exits	-.066	-.263	.132	.101	.51	<.01
	Total disruption	-.017	-.068	.034	.026	.50	<.01
Frequency	1 per week	-.570	-1.241	.100	.342	.10	<.01
	2 per week	**-1.367**	**-1.541**	**-1.194**	**.087**	**<.01**	**.01**
	3 per week	**1.349**	**1.145**	**1.555**	**.104**	**<.01**	**.01**
Patient	Age	-.017	-.053	.019	.018	.35	<.01
Baseline	Male gender	-.133	-1.051	.786	.469	.78	<.01
Characteristics	**English first language**	**-.925**	**-1.786**	**-.063**	**.440**	**.04**	**.03**
	Interest in music	.018	-.017	.052	.017	.31	<.01
	Avoidance of music	-<.001	.128	-.252	.2515	.99	<.01
	Treatment credibility	**.038**	**.001**	**.075**	**.019**	**.04**	**<.01**
	Motivation	-.005	-.026	.015	.010	.62	<.01
	Clinical severity	.272	-.420	.964	.353	.44	.02
Patient clinical characteristics	**N days in hospital at consent**	**-.008**	**-.014**	**-<.001**	**.003**	**<.01**	**.03**
	N previous admissions)	.063	-.014	.141	.040	.11	.01

	Length illness (yrs)	**-.035**	**-.060**	**-.009**	**.013**	**.01**	**.01**
	Previous music therapy	.146	-.717	1.008	.440	.74	<.01
Diagnosis	F10 Substance	.363	-3.055	3.781	1.744	.84	<.01
	F20 Schizophrenia	-.304	-.882	.274	.295	.30	<.01
	F30 Mood	.271	-.265	.808	.274	.32	<.01
	F60 Personality Disorder	-.049	-1.134	1.037	.554	.93	<.01
Medication	Hypnotics and Anxiolytics	-.002	-.528	.524	.268	.99	<.01
	Antidepressants	**-.758**	**-1.512**	**-.004**	**.385**	**.05**	**.01**
	Mood stabilisers	-.261	-1.228	.707	.494	.60	<.01
	Antipsychotic	.106	-.830	1.041	.477	.83	<.01
	Substance withdrawal	-.198	-2.093	1.698	.967	.84	<.01
	Extrapyramidial	**-.683**	**-1.383**	**.016**	**.357**	**.05**	**<.01**

Table G2: Appraisal	Null and mixed 3 level models.						Variance Explained	
Block	Variable	B	95% CI		SE	*p*	Variable % var (F^2)	Model % var (R^{2-})
Empty model	Constant	12.054	11.436	12.672	.315	<.01		
1. Music Therapy	Duration of singing	.001	-.001	.002	.001	.41	**.01**	.01
	Duration of synchrony	<.001	-.001	.001	<.001	.83	<.01	
2. Mediators	**Commitment to group**	**.154**	**.025**	**.283**	**.066**	**.02**	**.02**	
3. Patient chars.	**Days in hospital**	-.007	-.015	.002	.004	.13	**.01**	.06
	Length of illness	-.019	-.069	.030	.025	.44	<.01	
	Extrapyramidial	.083	-1.283	1.451	.698	.91	<.01	
	Antidepressant	**-.787**	**-1.380**	**-.195**	**.302**	**<.01**	**.02**	
	English first language	-.578	-1.382	.228	.411	.16	.01	
4. Full model	Duration of singing	.001	-.001	.002	.001	.34	.01	.08
	Duration of synchrony	<.001	-<.001	.001	<.001	.56	<.01	
	Commitment to group	.080	-.689	.229	.076	.29	<.01	
	Days in hospital	-.006	-.015	.002	.004	.16	.01	
	Length of illness	-.022	-.074	.031	.027	.42	<.01	
	Extrapyramidial	.086	-1.341	1.515	.728	.91	<.01	
	Antidepressant	**-.823**	**-1.358**	**-.290**	**.273**	**<.01**	**.02**	
	English first language	-.565	-1.414	.283	.433	.19	.01	
5. Full model + freq	2 per week	-.257	-.766	.252	.260	.32	.01	.09
	3 per week	**.807**	**.450**	**1.164**	**.182**	**<.01**	<.01	

Table G3: Outcome: Motivation- Univariate associations with predictors, N Level 3: 5, Level 2: 172, Level 1: 404							
Predictor type	Predictor	*B*		95% CI	Std Err	*p*	%var (R^2)
Common process	Appraisal	.810	-.409	2.029	.559	.17	.03
	Commitment to group	-.079	-1.200	1.042	.522	.88	<.01
Music Therapy	Improvisation	-.001	-.003	.002	.001	.50	.01
Activity (duration)	Precomposed	.002	-.003	.008	.003	.35	<.01
	Singing	-.002	-.007	.003	.002	.49	<.01
	Speaking	-.001	-.004	.003	.002	.71	<.01
	Silence	-.004	-.027	.020	.012	.77	<.01
Initiation of activity	Therapist- total	-.003	-.128	.121	.063	.96	<.01
	Patient- total	-.013	-.102	.076	.045	.77	<.01
	Others- total	-.007	-.082	.068	.038	.85	<.01
Improvisation	Therapist	.354	-.202	.910	.283	.21	<.01
	Patient	.195	-.213	.603	.206	.35	.01
	Others	-.105	-.393	.184	.145	.47	.01
Precomposed	**Therapist**	**-.636**	**-1.250**	**-.021**	**.313**	**.04**	**<.01**
	Patient	.036	-.498	.571	.272	.89	<.01
	Others	-.050	-.533	.433	.246	.84	<.01
Singing	Therapist	-.049	-.230	.132	.092	.60	<.01
	Patient	-.080	-.208	.048	.063	.22	<.01
	Others	-.003	-.173	.168	.087	.98	<.01
Speaking	Therapist	-.049	-.282	.183	.119	.68	<.01
	Patient	-.063	-.189	.064	.060	.31	.02
	Others	.048	-.103	.198	.076	.53	<.01
Patient participation	N times in group	.388	-1.678	2.454	1.053	.71	<.01
	Duration present	<.001	-.002	.002	.001	.91	<.01
	Duration participating	-.002	-.004	.001	.001	.22	.01
Music	Duration ppt plays music	<.001	-.002	.001	.001	.83	<.01
	Duration synchrony	<.001	-.006	.006	.003	.90	<.01
	N joint group endings	-1.270	-3.460	.920	1.114	.26	.01
Group	N ppts in group	.538	-.994	2.071	.777	.49	<.01
	Time on own	.002	<.001	.005	.001	.11	<.01
	N entrances	-.783	-2.176	.611	.704	.27	.01
	N exits	-.553	-1.774	.668	.623	.37	<.01
	Total disruption	.050	-.519	.619	.290	.86	<.01
Frequency	1 per week	1.995	-5.866	9.855	3.885	.61	7.62
	2 per week	-.754	-7.170	5.662	3.273	.82	<.01
	3 per week	-.319	-8.322	7.684	4.078	.94	<.01
Patient baseline characteristics	Age	-.206	-.541	.129	.162	.22	.04
	Male gender	.849	-7.674	9.373	4.180	.84	<.01
	English first language	-1.131	-4.900	2.639	1.907	.55	<.01
	Interest in music	**.268**	**.032**	**.503**	**.119**	**.03**	**.02**
	Avoidance of music	.403	-.349	1.155	.384	.29	<.01
	Treatment credibility	.232	-.413	.877	.329	.48	<.01
	Motivation	**.552**	**.277**	**.827**	**.137**	**<.01**	**.13**
	Clinical severity	-.136	-3.771	3.498	1.848	.94	<.01
Patient clinical characteristics	**N days in hospital**	**-.055**	**-.121**	**.012**	**.029**	**.10**	**.12**
	N previous admissions)	-.079	-.682	.524	.307	.80	<.01
	Length illness (years)	**-.291**	**-.615**	**.032**	**.157**	**.08**	**.06**
	Previous music therapy	-2.879	-10.11	4.355	3.553	.42	.01
Diagnosis	F10 Substance	1.154	-9.843	12.152	5.594	.84	<.01
	F20 Schizophrenia	**-2.493**	**-5.275**	**.289**	**1.418**	**.08**	**.01**
	F30 Affective	-.910	-5.008	3.187	2.084	.66	<.01

	F60 Personality Disorder	**17.803**	**7.381**	**28.225**	**5.092**	**<.01**	**.07**
Medication	Hypnotics and Anxiolytics	1.987	-2.420	6.395	2.217	.37	<.01
	Antidepressants	**6.934**	**2.994**	**10.873**	**1.954**	**<.01**	**.02**
	Mood stabilisers	-5.333	-12.83	2.158	3.583	.15	.01
	Antipsychotic	**-7.086**	**-14.03**	**-.145**	**3.539**	**.05**	**.02**
	Substance withdrawal	9.622	-4.082	23.326	6.425	.16	**.02**
	Extrapyramidial	**-5.728**	**-11.43**	**-.030**	**2.815**	**.05**	**.02**

Table G4: Motivation	Null and mixed 3 level models.						Variance Explained	
Block	Variable	B	95% CI		SE	*p*	Variable(F^2)	Model (R^2)
1. Music Therapy	**Therapist initiations of precomposed music**	**-.870**	**-1.507**	**-.232**	**.324**	**.01**	**<.01**	**.02**
	Other patients' initiation of singing	.029	-.117	.175	.074	.70	<.01	
	Patient initiation of speaking	-.073	-.191	.044	.057	.21	.01	
	Time on own in group	**.003**	**<.001**	**.005**	**.001**	**.02**	**<.01**	
	Patient N times in group	.415	-1.298	2.129	.874	.48	<.01	
	N Group entrances	-.791	-2.067	.485	.648	.22	<.01	
	N Group exits	-.273	-1.343	.798	.546	.62	<.01	
	Total Disruption	.157	-.229	.544	.197	.43	<.01	
2. Mediators	Commitment to group	-.079	-1.200	1.042	.522	.88	<.01	
3. Patient chars.	N previous admissions	.006	-.549	.676	.311	.84	<.01	.01
	Antidepressants	**4.420**	**.634**	**8.205**	**1.931**	**.02**	**<.01**	
	Antipsychotic	-3.811	-10.743	3.121	3.410	.27	<.01	
	Substance withdrawal	7.845	-7.791	23.482	7.207	.30	.02	
	F1: Substance misuse	-3.706	-10.340	2.928	3.343	.27	<.01	
	F6: Personality disorder	**14.517**	**1.938**	**27.096**	**5.993**	**.03**	**.05**	
4. Full model	**Therapist initiations of precomposed music**	**-.807**	**-1.589**	**-.024**	**.398**	**.04**	**<.01**	.14
	Other patients' initiation of singing	-.014	-.185	.158	.088	.88	<.01	
	Patient initiation of speaking	-.044	-.133	.045	.044	.33	<.01	
	Time on own in group	**.003**	**.001**	**.004**	**.001**	**.00**	**<.01**	
	Patient N times in group	.260	-1.573	2.093	.928	.78	<.01	
	N Group entrances	**-1.376**	**-2.578**	**-.174**	**.596**	**.03**	.04	
	N Group exits	-.175	-1.008	.657	.425	.68	<.01	
	Commitment to group	-.281	-1.479	.917	.585	.64	<.01	
	N previous admissions	.004	-.548	.555	.277	.99	<.01	
	Antidepressants	**6.358**	**2.051**	**10.664**	**2.197**	**.00**	**.02**	
	Antipsychotic	**-6.634**	**-13.660**	**.392**	**3.576**	**.06**	**.01**	
	Substance withdrawal	6.303	-9.738	22.344	7.566	.42	.02	
	F1: Substance misuse	1.155	-4.907	7.216	3.093	.71	<.01	
	F6: Personality disorder	**14.615**	**1.751**	**27.480**	**6.289**	**.03**	**.04**	

Table G5: Outcome: Commitment to group- Univariate associations N Level 3: 5, Level 2: 172, Level 1: 404							
Predictor type	Predictor	*B*		95% CI	Std Err	*p*	R^2
Common	**Appraisal**	**.098**	**.060**	**.137**	**.020**	**<.01**	**.04**
	Motivation	-.001	-.009	.007	.004	.84	<.01
Music Therapy	Improvisation	<.001	<.001	<.001	<.001	.89	<.01
Activity	Precomposed	<.001	<.001	<.001	<.001	.80	<.01
(duration)	Singing	<.001	<.001	.001	<.001	.29	<.01
	Speaking	<.001	<.001	<.001	<.001	.33	.01
	Silence	-.002	-.005	.001	.002	.17	.01
Initiation	Therapist- total	<.001	-.007	.007	.003	.94	<.01
	Patient- total						
	Others- total	**-.008**	**-.015**	**<.001**	**.004**	**.04**	**.02**
Improvisation	**Therapist**	**-.040**	**-.087**	**.008**	**.024**	**.10**	**.02**
	Patient	.013	-.017	.042	.015	.40	<.01
	Others	-.023	-.052	.005	.015	.11	.02
Precomposed	Therapist	-.039	-.181	.104	.071	.59	<.01
	Patient	**-.024**	**-.047**	**-.002**	**.011**	**.03**	**<.01**
	Others	.012	-.005	.028	.008	.16	<.01
Singing	Therapist	.003	-.009	.015	.006	.64	<.01
	Patient	-.010	-.024	.004	.007	.17	<.01
	Others	<.001	-.013	.014	.007	.98	<.01
Speaking	**Therapist**	**-.010**	**-.018**	**-.001**	**.004**	**.02**	**.01**
	Patient	-.006	-.017	.004	.006	.24	.01
	Others	.002	-.009	.014	.006	.72	<.01
Patient	N times in group	-.049	-.221	.124	.085	.57	.01
participation	Duration present	<.001	<.001	<.001	<.001	.64	<.01
	Duration participating	<.001	<.001	<.001	<.001	.24	.01
Music	Duration ppt plays music	<.001	<.001	<.001	<.001	.30	<.01
	Duration synchrony	<.001	<.001	<.001	<.001	.88	<.01
	N joint endings	-.012	-.140	.116	.065	.85	<.01
Group	N ppts in group	.124	-.102	.351	.113	.28	<.01
	Time on own	<.001	<.001	<.001	<.001	.18	<.01
	N entrances	-.045	-.114	.024	.035	.20	<.01
	N exits	-.050	-.108	.007	.029	.09	.01
	Total disruption	.009	-.027	.046	.019	.61	<.01
Frequency	**1 per week**	**-.503**	**-.967**	**-.040**	**.219**	**.04**	**<.01**
	2 per week	**-.264**	**-.523**	**-.005**	**.131**	**.05**	**<.01**
	3 per week	**.353**	**.020**	**.686**	**.167**	**.04**	**<.01**
Patient	Age	-.001	-.026	.024	.013	.94	<.01
baseline	Male gender	-.128	-.473	.217	.162	.44	<.01
characteristics	English first language	-.508	-1.064	.047	.281	.07	.03
	Interest in music	-.004	-.023	.014	.010	.65	<.01
	Avoidance of music	.013	-.080	.106	.047	.78	<.01

	Treatment credibility	.064	-.021	.149	.043	.14	<.01
	Motivation	<.001	-.006	.005	.003	.91	<.01
	Clinical severity	-.187	-.589	.214	.204	.36	.01
Patient clinical	**N days in hospital**	**-.004**	**-.005**	**-.003**	**.001**	**<.01**	**.05**
characteristics	N previous admissions	.034	-.013	.082	.024	.15	<.01
	Length illness	-.013	-.030	.005	.009	.17	.02
	Previous music therapy	-.035	-.716	.647	.347	.92	<.01
Diagnosis	F10 Substance	-.578	-2.156	.999	.803	.47	<.01
	F20 Schizophrenia	-.113	-.451	.225	.166	.50	<.01
	F30 Mood	.058	-.463	.580	.252	.82	<.01
	F60 Personality Disorder	.595	-.045	1.236	.326	.07	.01
Medication	Hypnotics and Anxiolytics	.245	-.015	.505	.133	.07	<.01
	Antidepressants	-.338	-.946	.270	.309	.28	.01
	Mood stabilisers	-.434	-1.183	.314	.382	.26	.01
	Antipsychotic	.286	-.369	.941	.323	.38	.01
	Substance withdrawal	**-1.981**	**-2.691**	**-1.272**	**.362**	**<.01**	**.07**
	Extrapyramidial	-.080	-.637	.476	.284	.78	<.01

Table G6: Commitment to group (CALPAS Total)	Null and mixed random intercepts models						Variance explained	
Block	Variable	B	95% CI		SE	*p*	Variable(F^2)	Model (R^2)
a)Empty model 2L	CALPAS Total							
b)Empty model 3L	CALPAS Total							
1. Music Therapy	Duration precomposed	<.001	<.001	<.001	<.001	.68	<.01	.02
	Therapist initiations of improvised music	**-.050**	**-.098**	**-.002**	**.025**	**.04**	**.02**	
	Other patient initiations of precomposed music	**.019**	**.006**	**.032**	**.006**	**.00**	**.01**	
	Patient initiated singing	-.012	-.028	.004	.008	.15	<.01	
2. Mediators	**Appraisal**	**.099**	**.059**	**.138**	**.020**	**<.01**	**.04**	.04
	Motivation for change	-.002	-.008	.004	.003	.43	<.01	
3. Patient characteristics	**Age**	**.011**	**.002**	**.020**	**.005**	**.02**	**<.01**	.14
	Time in hospital	**-.005**	**-.006**	**-.004**	**.001**	**<.01**	**<.01**	
	Substance withdrawal	**-2.060**	**-2.880**	**-1.240**	**.418**	**<.01**	**.08**	
	F3: Affective disorders	-.030	-.454	.393	.196	.88	<.01	
	Clinical global severity	-.134	-.473	.204	.172	.44	.01	
4. Full model	Duration precomposed	<.001	<.001	<.001	<.001	.53	<.01	.19
	Therapist initiations of improvised music	**-.044**	**-.079**	**-.008**	**.018**	**.02**	**.02**	
	Other patient initiations of precomposed music	.015	-.004	.004	.010	.11	<.01	
	Patient initiated singing	-.014	-.031	.003	.008	.09	<.01	
	Appraisal	**.093**	**.036**	**.150**	**.028**	**<.01**	**.05**	
	Motivation for change	-.003	-.011	.004	.004	.36	<.01	
	Age	**.013**	**.001**	**.024**	**.006**	**.03**	**.01**	
	Time in hospital	**-.005**	**-.006**	**-.003**	**.001**	**<.01**	**<.01**	
	Substance withdrawal	**-1.841**	**-2.511**	**-1.170**	**.342**	**<.01**	**.07**	
	F3: Depression	.019	-.396	.433	.190	.92	<.01	
	Clinical global severity (b)	-.168	-.467	.131	.152	.27	.01	
5. Full model + Freq	**2pw**	**.762**	**.481**	**1.043**	**.129**	**<.01**	**<.01**	.19
	3pw	**.620**	**.233**	**1.007**	**.185**	**<.01**	**<.01**	

Table G7: Outcome: Attendance of following session: Univariate associations with predictors						
Predictor type	Predictor	Coefficient		95% CI	Std Err	*p*
Common process	**Appraisal**	**.162**	**.129**	**.194**	**.017**	**<.01**
	Motivation	.004	-.010	.017	.007	.60
	Commitment	-.065	-.150	.020	.041	.13
Music Therapy	Improvisation	<.001	-.001	<.001	<.001	.19
Activity (duration)	Precomposed	<.001	<.001	.001	<.001	.37
	Singing	<.001	<.001	.001	<.001	.26
	Speaking	<.001	<.001	.001	<.001	.29
	Silence	-.001	-.003	.001	.001	.27
Initiation of activity	Therapist- total	-.004	-.012	.003	.004	.26
	Patient- total	**.008**	**.004**	**.012**	**.002**	**<.01**
	Others- total	<.001	-.010	.010	.005	.95
Improvisation	Therapist	-.026	-.074	.022	.024	.29
	Patient	-.014	-.055	.026	.020	.48
	Others	.007	-.024	.037	.015	.66
Precomposed	Therapist	-.027	-.090	.037	.032	.40
	Patient	.022	-.006	.050	.014	.11
	Others	-.008	-.062	.047	.028	.79
Singing	Therapist	-.011	-.025	.003	.007	.12
	Patient	.007	-.016	.031	.012	.55
	Others	.004	-.012	.021	.008	.59
Speaking	Therapist	-.008	-.030	.015	.011	.49
	Patient	-.005	-.021	.012	.008	.57
	Others	.004	-.009	.016	.006	.57
Patient	N times in group	.020	-.169	.209	.096	.83
participation	Duration present	<.001	<.001	<.001	<.001	.47
	Duration participating	<.001	<.001	<.001	<.001	.57
Music	Duration ppt plays music	<.001	<.001	<.001	<.001	.87
	Duration synchrony	<.001	-.001	<.001	<.001	.49
	N joint group endings	-.024	-.301	.254	.142	.87
Group	N ppts in group	.060	-.202	.323	.134	.65
	Time on own	**<.001**	**<.001**	**<.001**	**<.001**	**<.01**
	N entrances	-.059	-.150	.031	.046	.20
	N exits	-.002	-.155	.150	.078	.98
	Total disruption	**-.031**	**-.056**	**-.007**	**.013**	**.01**
Frequency	**1 per week**	**-.696**	**-.953**	**.439**	**.131**	**<.01**
	2 per week	**-.466**	**-.608**	**-.324**	**.072**	**<.01**
	3 per week	**.532**	**.379**	**.684**	**.078**	**<.01**
Patient baseline	Age	-.016	-.037	.005	.011	.14
characteristics	Male gender	-.160	-.771	.451	.312	.61
	English first language	-.474	-1.151	.204	.346	.17
	Interest in music	-.010	-.030	.010	.010	.33
	Avoidance of music	-.014	-.227	.200	.109	.90
	Treatment credibility	-.041	-.094	.012	.027	.13

	Motivation	-.014	-.041	.013	.014	.32
	Clinical severity	.327	-.185	.840	.261	.21
Patient clinical	N days in hospital	-.003	-.006	.001	.002	.19
characteristics	N previous admissions)	-.027	-.124	.070	.050	.59
	Length illness (years)	-.002	-.033	.029	.016	.89
	Previous music therapy	**-.423**	**-.723**	**-.124**	**.153**	**<.01**
Diagnosis	F10 Substance	-.343	-2.192	1.506	.943	.72
	F20 Schizophrenia	.240	-.509	.988	.382	.53
	F30 Affective	-.223	-.756	.310	.272	.41
	F60 Personality Disorder	.165	-1.036	1.366	.613	.79
Medication	Hypnotics and Anxiolytics	.729	-.158	1.616	.453	.11
	Antidepressants	-.127	-1.631	.778	.614	.49
	Mood stabilisers	-.021	-1.280	1.239	.643	.97
	Antipsychotic	.411	-.448	1.270	.438	.35
	Substance withdrawal	-.192	-1.830	1.445	.836	.82
	Extrapyramidial	-.900	-2.008	.207	.565	.11

Table G8: Attendance of following session	Null and random intercepts models								
Block	Variable	NL3	NL2	NL1	Coefficient	95% CI		SE	*p*
a)Empty model 2L	Attended next session								
b)Empty model 3L	Attended next session	5	60	383	.291	.051	.531	.122	.02
1. Music Therapy	Singing (duration)				<.001	<.001	.001	<.001	.08
	Initiation by other patients (total)				-.003	-.011	.005	.004	.43
	Initiation of improvisation by other patients				.014	-.007	.034	.010	.18
	Initiation of precomposed music by other patients				-.008	-.071	.056	.032	.82
	Time on own in group				**<.001**	**<.001**	**<.001**	**<.001**	**<.01**
2. Mediators	**Appraisal**				**.153**	**.124**	**.182**	**.015**	**<.01**
1pw vs.	**2pw**				**.465**	**.296**	**.634**	**.086**	**<.01**
	3pw				**.759**	**.658**	**.860**	**.052**	**<.01**
3. Patient characteristics	**Previous music therapy**				**-.423**	**-.723**	**-.124**	**.153**	**<.01**
4. Full model	**Singing (duration)**				**<.001**	**<.001**	**.007**	**<.001**	**.04**
	Initiation by other patients (total)				-.001	-.008	.007	.004	.86
	Initiation of improvisation by other patients				**.022**	**<.001**	**.043**	**.011**	**.05**
	Initiation of precomposed music by other patients				-.015	-.077	.048	.032	.64
	Time on own in group				**<.001**	**<.001**	**<.001**	**<.001**	**.01**
	Appraisal				**.153**	**.126**	**.180**	**.014**	**<.01**
Frequency: 1pw vs.	**2pw**				**.607**	**.351**	**.863**	**.131**	**<.01**
	3pw				**.774**	**.545**	**1.003**	**.117**	**<.01**
	Previous music therapy				-.206	-.464	.051	.131	.12